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Regulations and Non-Regulatory Revisions to State Implementation Plan: Tennessee

Atlantic Environmental Associates, Inc.
Waltham, MA

Prepared for

Environmental Protection Agency
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Regulations and Non-Regulatory Revisions to State Implementation Plan: Tennessee

By

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Contract No. 68-02-3565

EPA Project Officer: Willis P. Beal

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16. ABSTRACT

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA-approved State and/or local air pollution control regulations cited by reference in the Federal Register; regulations promulgated as of August 1, 1981 have been included in this document.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979. State and/or local air quality regulations which have not been Federally approved as of August 1, 1981, are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State, or local agencies to enforce such regulations. A summary sheet of the regulatory revisions is provided to give a quick historical assessment of the changes.

The second part of the document contains the text of non-regulatory SIP revisions approved by EPA up to August 1, 1981, excluding notices or certifications of public hearings and technical support data. A complete tabulation of these revisions is also provided.

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PREFACE

This document has been produced in compliance with Section 110(h) of the Clean Air Act, as amended in 1977, which mandates periodic publication of State Implementation Plan (SIP) requirements. The first section of the document comprises the Federally approved SIP regulations. It consists of the EPA approved State and/or local air pollution control regulations cited by reference in the Federal Register; all regulations Federally promulgated as of August 1, 1981 have been included.

The present compilation constitutes an update of a previous documentation of regulations as of July 1, 1979.* State and/or local air quality regulations which have not been Federally approved as of August 1, 1981 are not included. However, any omissions of regulations from this document in no way affects the ability of the respective Federal, State or local agencies to enforce such regulations.

This document is not intended to provide a tool for determining the enforceability of any given regulation. Rather, it is intended to provide a comprehensive compilation of those regulations which are incorporated by reference into Title 40, Part 52, of the Code of Federal Regulations (CFR). The exclusion of a Federally approved regulation from this document does not diminish the enforceability of the regulation. Similarly, the inclusion of a given regulation in this document does not, in itself, render the regulation enforceable by either the State or EPA.

The regulations have been organized in this document according to the official State/local agency format. However, since State air quality regulations vary widely in their organization, content, and language, a standardized subject index has been added. The index listings consist of both pollutant and activity oriented categories to facilitate usage. For example, regulations which apply to copper smelters may be found under sulfur compounds (50.2), particulate matter process weight (50.1.1), or copper smelters (51.15). Federal regulations pertaining to a given State are not included herein but can be found under Title 40 Code of Federal Regulations, Part 52.

Additionally, a summary sheet of the regulatory revisions is included to provide a quick historical assessment of the changes. These summary sheets contain the date of submittal to EPA of each revision and the Federal Register publication date on which the revision was approved by EPA. A brief description of the regulation which was submitted is also included.

In accordance with the Act, the second part of the document contains non-regulatory SIP revisions approved by EPA up to August 1, 1981. All approved non-regulatory revisions listed under Identification of Plan in the CFR are included except notices or certifications of public hearings, and technical support data. Non-regulatory submittals which have only received EPA approval on selected elements are included in their entirety with an accompanying indication of the status of Federal actions on the non-approved elements. The non-regulatory revisions have been organized in this document according to the date of publication of EPA approval in the Federal Register. For historical completeness, a complete tabulation of these revisions is provided at the beginning of this second section.

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* Regulations and Non-Regulatory Revisions to State Implementation Plan: Tennessee, EPA-450/2-80-049, prepared under Contract 68-02-3388, July 31, 1980.

SUMMARY OF
EPA-APPROVED REGULATORY REVISIONS TO STATE OF TENNESSEE SIP
BETWEEN JULY 1, 1979 AND JULY 31, 1981

Publication of Approval	Submittal Date	Page	Document Description
02/06/80	04/12/79	45FR8008	Revisions to Chapter 1200-3-2 Definitions, and Chapter 1200-3-19.
	04/27/79		Revisions to Chapter 1200-3-1.02 Severability, Chapter 1200-3-2 Definitions, Chapter 1200-3-7.11 Carbon Monoxide, Electric Arc Furnaces, Chapter 1200-3-19.11, .12, .13, .14, .15.
04/24/80	04/12/79	45FR27758	Regulation 1200-3-9-.01(4) for the review of new sources.
08/13/80	07/02/79 05/08/80	45FR53817	Regulations 1200-3-18-.01 through .47. (Certain portions have been reserved, and others not acted upon.)

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    - 50.2 SULFUR COMPOUNDS
    - 50.3 NITRIC OXIDES
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- 51.0 SOURCE CATEGORY SPECIFIC REGULATIONS
    - 51.1 AGRICULTURAL PROCESSES (includes Grain Handling, Orchard Heaters, Rice and Soybean Facilities, Related Topics)
    - 51.2 COAL OPERATIONS (includes Cleaning, Preparation, Coal Refuse Disposal Areas, Coke Ovens, Charcoal Kilns, Related Topics)
    - 51.3 CONSTRUCTION (includes Cement Plants, Materials Handling, Topics Related to Construction Industry)
    - 51.4 FERROUS FOUNDRIES (includes Blast Furnaces, Related Topics)
    - 51.5 FUEL BURNING EQUIPMENT (coal, natural gas, oil) - Particulates (includes Fuel Content and Other Related Topics)
    - 51.6 FUEL BURNING EQUIPMENT (coal, natural gas, oil) - SO_2 (includes Fuel Content and Other Related Topics)
    - 51.7 FUEL BURNING EQUIPMENT (oil, natural gas, coal) - NO_2 (includes Fuel Content and Other Related Topics)
    - 51.8 HOT MIX ASPHALT PLANTS
    - 51.9 INCINERATION
    - 51.10 NITRIC ACID PLANTS
    - 51.11 NON-FERROUS SMELTERS (Zn, Cu, etc.) - Sulfur Dioxide
    - 51.12 NUCLEAR ENERGY FACILITIES (includes Related Topic)
    - 51.13 OPEN BURNING (includes Forest Management, Forest Fire, Fire Fighting Practice, Agricultural Burning and Related Topics)
    - 51.14 PAPER PULP; WOOD PULP AND KRAFT MILLS (includes Related Topics)
    - 51.15 PETROLEUM REFINERIES
    - 51.16 PETROLEUM STORAGE (includes Loading, Unloading, Handling and Related Topics)
    - 51.17 SECONDARY METAL OPERATIONS (includes Aluminum, Steel and Related Topics)
    - 51.18 SULFURIC ACID PLANTS

51.19 SULFURIC RECOVERY OPERATIONS

51.20 WOOD WASTE BURNERS

51.21 MISCELLANEOUS TOPICS

51.22 COATING OPERATIONS (Can, Coil, Paper, Fabric, Vinyl, Metal, Wire, Surface Coating)

51.23 CUTBACK ASPHALT

51.24 SOLVENT METAL CLEANING

CHAPTER 1200-3-1

GENERAL PROVISIONS

These regulations are intended to implement provisions of the "Tennessee Air Quality Act" (Tennessee Code Annotated Section 53-3408 et seq.).

These regulations are based upon the premise that the basic and foremost function of the air is to sustain life and that air in its purest state is best suited for this need. It is intended that these regulations assist in maintaining an equitable balance between benefits of clean air and the economic cost of achieving clean air. More specifically, it is intended that these regulations define ambient air quality standards to be achieved and maintained and to provide for an orderly and equitable regulation of air quality by limiting emissions of air contaminants.

The ambient air is the air surrounding us. Ambient air quality standards determine the level of air quality in which we will live, and should be used as tools in achieving cleaner air, not as a permit to unnecessarily degrade air quality. Polluted air can be a menace to all forms of life and therefore, the disposal of wastes into the atmosphere must be controlled.

Ambient air quality standards are further intended to promote the maximum use of property. When the problems involved are esthetic in nature, an equitable economic balance must be achieved. When a health hazard is involved, there can be no compromise.

The requirements for limiting airborne contaminants must relate effects on men, animals, vegetation, and property to pollutant concentration at the point of contact. This, in turn, must be correlated with the source or sources. When multiple sources of a pollutant exist in an area, a limitation of the emission from each source must be exercised and the individual contribution to the total pollutant load in the area must be reduced to insure compliance with the ambient air quality standards. This is accomplished by the application of emission standards.

An emission standard is a limit on the amount of air contaminant emitted from a source, and is intended to bring the ambient air within acceptable air quality limits.

These standards will be modified from time to time, as additional information on air contaminants and sources of air pollution are developed and evaluated.

SEVERABILITY

The provisions of this Division 1200-3, the Tennessee Air Pollution Control Regulations, are severable and if any chapter, rule, paragraph, subparagraph, part, subpart, item, subitem, section, subsection, sentence, or phrase therein shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not effect, impair or invalidate the remainder of this Division 1200-3, but shall be confined to the chapter, rule, paragraph, subparagraph, part, subpart, item, subitem, section, subsection, sentence or phrase of this Division that shall be directly involved in the controversy in which such judgment shall have been rendered.

CHAPTER 1200-3-2

DEFINITIONS

The following terms shall, unless the context clearly indicates otherwise, have the following meaning:

1. Air Contaminant is particulate matter, dust, fumes, gas, mist, smoke or vapor, or any combination thereof.

2. Air Contaminant Source is any and all sources of emission of air contaminants, whether privately or publicly owned or operated. Without limiting the generality of the foregoing, this term includes all types of business, commercial and industrial plants, works, shops, and stores, and heating and power plants and stations, building and other structures of all types, including multiple family residences, apartment houses, office buildings, hotels, restaurants, schools, hospitals, churches and other institutional buildings, automobiles, trucks, tractors, buses and other motor vehicles, garages and vending and service locations and stations, railroad locomotives, ships, boats and other water borne craft, portable fuel-burning equipment, incinerators of all types, indoor and outdoor, refuse dumps and piles, and all stack and other chimney outlets from any of the foregoing; provided, however, that neither automobiles, trucks, tractors, buses or other motor vehicles powered by any fuel other than diesel oil and which were manufactured prior to September 1, 1967, automobiles, trucks, tractors, buses or other motor vehicles powered by diesel oil and manufactured prior to January 1, 1970, nor automobiles, trucks, tractors, buses or other motor vehicles which are equipped to comply and do comply with the Federal "Motor Vehicle Air Pollution Control Act" shall be considered or determined to be an "air contaminant source.

3. Air Curtain Destructor is a unit consisting of a combustion chamber pit and an air blower designed to establish a curtain of high velocity air above the fire burning in the pit so that the products of combustion must be forced up through the curtain before they can reach the outside air.

4. Air Pollution is presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious to human, plant or animal life or to property, or which unreasonably interfere with the equipment of life and property.

5. Ambient Air is that portion of the atmosphere, external to buildings.

6. Board is the Air Pollution Control Board of the State of Tennessee.

7. Continuous Monitoring is sampling and analysis of air contaminants in a continuous or timed sequence, using techniques which will adequately reflect actual emission levels or ambient concentrations on a continuous basis.

8. Cupola is a stack type furnace in which fuel, metal and fluxing agents are intermixed and is used for producing molten metal. It consists primarily of, but is not limited to, furnace proper, tuyeres, fans or blowers, tapping ports, charging equipment, gas cleaning devices and other auxiliary equipment. Cupolas are further categorized for the purpose of these regulations as follows:

   a. Ferrous - a cupola in which the major component of the metal is produced is iron.

   b. Jobbing - a cupola used in an intermittent type operation where the process weight is not in excess of 20,000 pounds per hour and the operating (firing) time is not in excess of 8 hours per day.

   c. Existing - a cupola placed in operation at its present location prior to April 3, 1972.

9. Department is the Department of Public Health of the State of Tennessee.

10. Effluent Water Separator is any tank, box, sump, or other container in which any volatile organic compound floating on or entrained or contained in water entering such tank, box, sump, or other container is physically separated and removed from such water prior to outfall, drainage, or recovery of such water.

11. Emission is the release of material to the ambient air.

12. Equivalent Method is any method of monitoring, sampling and analyzing for an air contaminant which can be demonstrated to the Technical Secretary's satisfaction to have a consistent relationship to the reference method.

13. Fuel Burning Equipment is any equipment, device or contrivance and all appurtenances thereto, in which fuel is burned for the primary purpose of producing thermal energy and in which the material being heated is not contacted by, and adds no substance to, the products of combustion.

14. Fuel Burning Installation consists of one or more units of fuel-burning equipment where the products of combustion are discharged through a single stack or where the products of combustion are discharged through more than one stack the plumes from which tend to merge into a single plume.

15. Fugitive Dust is any visible emission, other than water droplets, issuing from any source other than through a stack.

16. Garbage is putrescible animal or vegetable waste.

17. Hazardous Air Contaminant is any air contaminant which may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness and has been so designated by the Technical Secretary.

18. Incinerator is any equipment, device, or contrivance used for disposal of waste or refuse by burning, excluding wigwam burners and air curtain destructors.

19. Kraft Mill is any pulping process which uses, for a cooking liquor, an alkaline sulfide solution containing sodium hydroxide and sodium sulfide.

20. Liquid Sulfur Dioxide Plants are any plants designed to produce compressed liquid sulfur dioxide as a final product.

21. Magnetite Processing Plant is an air contaminant source where magnetite ore is dried and crushed to achieve reduction in size. A magnetite processing plant is comprised of any combination of the following: kiln-type dryers, systems for crushing, screening, handling, storing, bulk loading, and bagging of processed magnetite; systems for loading, transferring, and storing of magnetite ore; and any emission control systems.

22. Mine Shaft Heaters are fuel burning equipment used during cold weather to prevent icing from forming in a mine shaft with the primary purpose of safety assurance for miners and protection of shaft equipment.

23. Modification is any physical change in, or change in the method of operation of an air contaminant source, which increases the amount of any air contaminant (to which standard applies) emitted by such source or which results in the emission of any air contaminant (to which a standard applies) not previously emitted except that:

a. Routine maintenance, repair, and replacement shall not be considered physical changes, and

b. The following shall not be considered a change in the method of operation:

   1. an increase in the production rate, if such increase does not exceed the operating design capacity of the affected source;

   2. an increase in hours of operation; and

   3. the use of an alternate fuel if the source is designed to accommodate such alternative fuel;

c. The burden of proof establishing that a change is excepted under parts 1 and 2 is on the owner or operator. The Technical Secretary shall rule on whether or not a reported change is excepted in a timely fashion. Further expansions or restrictions of the definition may be listed in specific chapters or rules.

24. New Source is, with respect to any rule, any air contaminant source commenced on or after the date specified in that rule. (If no date is specified in a rule, then the effective date of the rule or the specific applicable provision of the rule is the cut off date.) However, if an earlier effective rule contained the same provision, then that earlier date is the cut off date whether such commencement was for an entirely or substantially new source or the modification of an existing source. The word substantially here means replacing virtually all of an existing source, excluding the foundation and utility and/or control lines to the site. As an example, installing a crusher on the foundation of an existing crusher would constitute the creation of a new source.

25. New Source Performance Standard is a standard for the emission of an air contaminant promulgated by the Administrator of the Environmental Protection Agency and published in the Federal Register.

26. Nitric Acid Plant is any air contaminant source producing nitric acid.

27. Opacity is that property of a substance tending to obscure vision and is measured in terms of percent obscuration. As used in these regulations it does not include opscuration of vision due to uncombined water droplets. The percentage opacity of a plume is numerically equal to twenty (20) times the Ringelmann number for a plume of black smoke having equivalent capacity of obscuration.

28. Open Burning is the burning of any matter under such conditions that the products of combustion are emitted directly into the open atmosphere without passing directly through a stack except when equipment is provided and used to control fuel-air ratio.

29. Particulate Matter is any material, except uncombined water, that exists in a finely divided form as a liquid or solid.

30. Parts Per Billion (ppb) is a term describing parts of an air contaminant per billion parts of gas by volume (1 ppm equals 0.0001 percent by volume).

31. Parts Per Million (ppm) is a term describing parts of an air contaminant per million parts of gas by volume (1 ppm equals 0.0001 percent by volume).

32. Pellet Plants are plants designed to produce iron oxide pellets for manufacture of iron or prereduction utilizing iron calcines produced from a natural bearing iron ore source.

33. Point Source shall have the same meaning as defined in Part 51 of Title 40 of the Code of Federal Regulations.

34. Political Subdivision is any municipality, city, incorporated town, county, district or authority, or any portion or combination of two or more thereof.

35. Portland Cement Plant is any air contaminant source manufacturing portland cement by either the wet or dry process.

36. Process Emission is any emission of an air contaminant to the ambient air other than that from fuel burning equipment, incinerator, wigwam burners, or open burning.

37. Process Emission Source is one or more units of processing equipment which may be operated independently of other parts of the operations at any given manufacturing or processing facility; also, where it is common practice to group more than one unit of like or similar processing equipment together and to apply a single or combined unit of air pollution control equipment to the emissions of the entire group, such group of units shall be constructed as a process emission source.

38. Process Weight means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion air are not.

39. Process Weight Rate is a rate established as follows:

a. For continuous or long-run, steady-state, operations, it is the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the numbers of hours of such period or portion thereof.

b. For cyclical or batch source operations, it is the total process weight for a period which covers a complete or an integral number of cycles, divided by the hours of actual process operation during such period.

c. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, that interpretation which results in the minimum value for allowable emissions shall apply.

40. Reference Method is a method of monitoring, sampling and analyzing for an air contaminant as described in Chapter XII of these Regulations.

41. Ringelmann Chart is the chart published and described in U.S. Bureau of Mines Information Circular 8333.

42. Salvage Operation is any business, trade or industry engaged in whole or in part, in reclaiming one or more terms of value.

43. Silicon Carbide Plant is any air contaminant source producing silicon carbide (SiC) in specially designed railroad cars which serve as furnaces with the basic furnace charge being a mixture of sand (silica), coke, and sawdust. A silicon carbide plant is comprised of any combination of the following: furnaces; furnace unloading facilities; systems for crushing, screening, handling, storing, bulk loading, and bagging silicon carbide; systems for loading, transferring, and storing raw materials; and any emission control systems.

44. Smoke is small gas-borne particles resulting from incomplete combustion, consisting predominantly, but not exclusively, of carbon and other combustible material. It does not include water vapor or water droplets.

CHAPTER 1200-3-3

AMBIENT AIR QUALITY STANDARDS

SECTION 1 -- APPLICABILITY

Ambient air quality standards as given in Tables I, II and III are applicable throughout Tennessee.

These ambient air quality standards shall not be construed, applied or interpreted to allow any significant deterioration of the existing air quality in any portion of the state.

SECTION 2 -- DEFINITIONS

Primary ambient air quality standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect the public health.

Secondary ambient air quality standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect the public welfare from any known anticipated adverse effects of the pollutant.

SECTION 3 -- STANDARDS

TABLE I

TENNESSEE AMBIENT AIR QUALITY STANDARDS for Suspended Particulates, Sulfur Dioxide, Carbon Monoxide, Photochemical Oxidants, Non-Methane Hydrocarbons and Nitrogen Dioxide.

Contaminant	Primary Standard			Secondary Standard		
	Concentration		Averaging Interval	Concentration		Averaging Interval
	ug/m^3	ppm by vol.		ug/m^3	ppm by vol.	
Suspended Particulates	75	--	AGM	60	--	AGM
	260	--	24 Hr.	150	--	24 Hr.
Sulfur Dioxide	80	0.03	AAM	60	0.02	AAM
	365	0.14	24 Hr.	360	0.138	24 Hr.
				1300	0.5	3 Hr.
Carbon Monoxide	10,000	9.0	8 Hr.	10,000	9.0	8 Hr.
	40,000	35.0	1 Hr.	40,000	35.0	1 Hr.
Photo chemical Oxidant	160	0.08	1 Hr.	160	0.08	1 Hr.
Hydrocarbons (non-methane)	160	0.24	3 Hr. a.m.	160	0.24	3 Hr. a.m.
Nitrogen Dioxide	100	0.05	AAM	100	0.05	AAM

Notes: 1. All values other than annual values are maximum concentrations not to be exceeded more than once per year.

2. PPM values are approximate only.

3. All concentrations relate to air at standard conditions of 25^{0} C temperature and 760 millimeters of mercury pressure.

4. $\mu g/m^3$ - micrograms per cubic meter

5. AGM - Annual geometric mean

6. AAM - Annual arithmetic mean

TABLE II

Tennessee Ambient Air Quality Standards for Soiling Index in COH units per 1000 linear feet of air.

Primary Standards		Secondary Standards	
Soiling Index	Averaging Interval	Soiling Index	Averaging Interval
1.0	24 hr. average	0.6	24 hr. average
3.5	2 hr. average	2.0	2 hr. average

Note: All values are maximums not to be exceeded more than once per year.

TABLE III

Tennessee Ambient Air Quality Standards for Gaseous Fluorides Expressed as HF.

Primary Standards			Secondary Standards		
Concentration		Averaging Interval	Concentration		Averaging Interval
$\mu g/m^3$	ppb by vol.		$\mu g/m^3$	ppb by vol.	
1.2	1.5	30 days	1.2	1.5	30 days
1.6	2.0	7 days	1.6	2.0	7 days
2.9	3.5	24 hr.	2.9	3.5	24 hr.
3.7	4.5	12 hr.	3.7	4.5	12 hr.

Notes:
1. All values are maximums not to be exceeded more than once per year.
2. Concentrations in micrograms per cubic meter ($\mu g/m^3$) are approximate only.

3. All concentrations relate to air at standard conditions of 25° C temperature and 760 millimeters of mercury pressure.

SECTION 4 -- The standards set forth in this chapter shall be achieved by July 1, 1975.

CHAPTER 1200-3-4

OPEN BURNING

SECTION 1 -- PURPOSE

It is the purpose of this Chapter to establish controls on open burning so as to prevent undesirable levels of air contaminants in the atmosphere.

SECTION 2 -- OPEN BURNING PROHIBITED

No person shall cause, suffer, allow or permit open burning except as specifically permitted in this Chapter.

SECTION 3 -- EXCEPTIONS TO PROHIBITION

A. Open burning as listed below may be conducted without permit subject to the specified limitations and provided further that no public nuisance is or will be created by such open burning. This grant of exemption shall in no way relieve the person responsible for such burning from the consequences of or the damages, injuries or claims resulting from such burning.

1. Domestic burning, exclusive of garbage, at a property consisting of not more than four (4) dwelling units and used exclusively as private residences where collection services for such material is not available. Collection service will be considered available if provided as a public service or if such may be obtained at a reasonable cost other than as a public service.

2. Fires used for cooking of food or for ceremonial or recreational purposes including barbecues and outdoor fireplaces.

3. Fires used to clear land of materials grown on that land for agricultural, forest or game management purposes provided no land, air, or water traffic hazard is created.

4. Fires set for the training and instruction of public or private fire-fighting personnel including those in Civil Defense.

5. Fires set by or at the direction of responsible fire control agency for the prevention, elimination or reduction of a fire hazard.

6. Smokeless flares or safety flares for the combustion of waste gases, providing other remaining applicable conditions of these regulations are met.

B. All other forms of open burning are hereby prohibited except such as may be approved by the Technical Secretary upon a showing to him that there is no other practical, safe, and lawful method of disposal. Such open burning so approved by the Technical Secretary shall only be done with a valid permit and subject to the provisions of such permit.

SECTION 4 -- PERMITS FOR OPEN BURNING

Any person having a valid permit to conduct open burning issued prior to April 3, 1972, may continue such open burning as authorized by the permit until the expiration date of the permit.

Any person proposing to conduct open burning not authorized by a valid permit issued prior to April 3, 1972, shall make application for and have in his possession a valid open burning permit before such open burning is commenced.

Application for an open burning permit shall be made on forms supplied by the Department. Failure to submit completed forms or to supply requested supplementary information concerning a proposed open burning operation shall constitute just cause for refusing issuance of a permit. Failure to adhere to substantive provisions of any permit shall be just cause for revocation of the permit by the Technical Secretary.

Obtaining an open burning permit as required in this regulation does not relieve any person of the responsibiltiy of obtaining a permit required by any other agency or complying with other requirements of such agencies. Particular attention is directed to Section 39-518 Tennessee Code Annotated.

CHAPTER 1200-3-5

VISIBLE EMISSION REGULATIONS

SECTION 1 -- DEFINITIONS

As used in this Chapter, existing air contaminant source refers to such sources as were in operation or under construction prior to August 9, 1969, and new air contaminant sources refers to such sources as began construction on or after August 9, 1969.

SECTION 2 -- GENERAL

A. No person shall cause, suffer, allow or permit discharge of a visible emission from any new air contaminant source with a density greater than number one (1) of the Ringelmann Chart or any opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

B. On and after August 9, 1973, no person shall cause, suffer, allow or permit discharge of a visible emission from any existing air contaminant source with a density equal to or greater than number two (2) of the Ringelmann Chart or an opacity equal to or in excess of forty (40) percent for more than five (5) minutes in any one (1) hour or an aggregate of more than twenty (20) minutes in any twenty-four (24) hour period.

C. On and after August 9, 1975, the provisions of subsection B of this Chapter shall no longer be applicable and all air contaminant sources shall be construed as new sources for the purpose of this Chapter.

D. Due allowance shall be made for visible emissions in excess of that permitted in sub-sections A and B of this Chapter which are necessary or unavoidable due to start-up, breakdown or upset conditions provided the owner or operator shall maintain a running, current log of such start-up, breakdown or upset condition showing the time at which such condition began and ended and that such record shall be available to the Technical Secretary or his representative upon request. For those operations subject to a permit, it shall be permissible to omit the record of start-up conditions not in compliance with sub-sections A and B provided such start-up condition has been made a part of the permit.

E. It is expressly intended that in testing compliance with sub-sections A and B that visible emissions tending to produce a black plume will be evaluated in terms of the Ringelmann scale and that visible emissions tending to produce a non-black plume will be evaluated in terms of equivalent opacity and expressed as percent opacity.

F. Visible emissions from fuel-burning equipment used exclusively to provide space heating in a building containing not more than two (2) dwelling units shall not be subject to the provisions of this Chapter.

SECTION 6--LARGE WOOD-FIRED FUEL BURNING EQUIPMENT

A. Wood-fired fuel burning equipment, subject to Chapter 1200-3-6, Section 6 with a heat input of greater than 100 million Btu/hr must meet an emission limit of forty (40) percent opacity (or a density of number two on the Ringelmann Chart).

B. Opacity for purposes of this rule shall be determined by the reference method as specified in the Federal Register, Vol. 39, No. 219, November 12, 1974.

C. Where this wood-fired fuel burning equipment is on the effective date of this rule exhausted to the same stack as other equipment this standard shall apply.

D. If other emission sources are constructed to exhaust through the stack on or after the effective date of this rule the opacity standard shall be V where:

$$V = \frac{40.0\ V_W + 20.0\ V_R}{V_W + V_R}$$

Where:

V = opacity standard in percent opacity.

V_W = exhaust flow rate in dry standard cubic feet from the wood fired fuel burning equipment and other equipment present before the effective date of this rule.

V_R = exhaust flow rate in dry standard cubic feet from the equipment (not being wood fired fuel burning equipment) constructed so as to exhaust through the stack and commenced on or after the effective date of this rule.

E. This rule does not apply in Davidson, Hamilton, Knox, and Shelby Counties but these facilities will be subject to Chapter 1200-3-5 Section 1.

1200-3-6

1200-3-6

NON-PROCESS EMISSION STANDARDS

SECTION 1 -- GENERAL NON-PROCESS PARTICULATE EMISSIONS

A. No person shall cause, suffer, allow or permit particulate emissions in excess of the standards in this Chapter.

B. The Board shall be responsible for setting an appropriate emission standard for each non-process air contaminant source discharging particulate matter in any county where all such sources are emitting particulates at rates in conformity with the applicable maximum allowable emission standard and yet the ambient air quality standard for particulate matter is being exceeded in that county.

C. The owner or operator of an existing fuel burning installation proposing to make a modification of this source or to rebuild or replace it shall only take such action if it will result in the source meeting the maximum allowable particulate emission standards for a new fuel burning installation.

D. As used in this chapter, existing installation or equipment shall mean such as were under construction or in operation prior to April 3, 1972.

E. For the purpose of determining the applicable particulate matter emission standards in this chapter, a change in fuel from natural gas, propane, butane and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels shall not be considered a modification.

F. If an owner or operator of fuel burning equipment, is ordered by the U.S. Department of Energy under the Energy Supply and Environmental Coordination Act of 1974, or any amendments thereto, or any subsequent enactment which supersedes such provisions, to switch fuels, required alterations to existing fuel burning equipment to accommodate these additional fuels shall not be deemed a modification for purposes of determining the allowable emissions as established by this Chapter.

SECTION 2 -- NON-PROCESS PARTICULATE EMISSION STANDARDS

A. CHOICE OF STANDARDS - EXISTING FUEL BURNING EQUIPMENT

Any fuel burning installation operating or under construction prior to August 9, 1969 shall attain the allowable emission standard from either the diffusion equation presented in subsection 1 below or the particulate curve (Figure 1) in subsection 2 below. The owner or operator of such a fuel burning installation shall make known, in writing, to the Technical Secretary by July 1, 1972, his choice of emission standard. If no choice is indicated, the Technical Secretary shall designate the Particulate Curve (Figure 1) subsection 2 as the applicable standard. Provided however, that after July 1, 1975, no existing fuel burning installation shall discharge particulate emissions in excess of subsection 2 below (Figure 1 - existing particulate curve).

1. DIFFUSION EQUATION

For existing installations up to and including 4000 million BTU per hour total plant heat input, the maximum allowable particulate emission shall be as determined by the following equation, provided, however, that no emission in excess of six tenths (6.0) pounds

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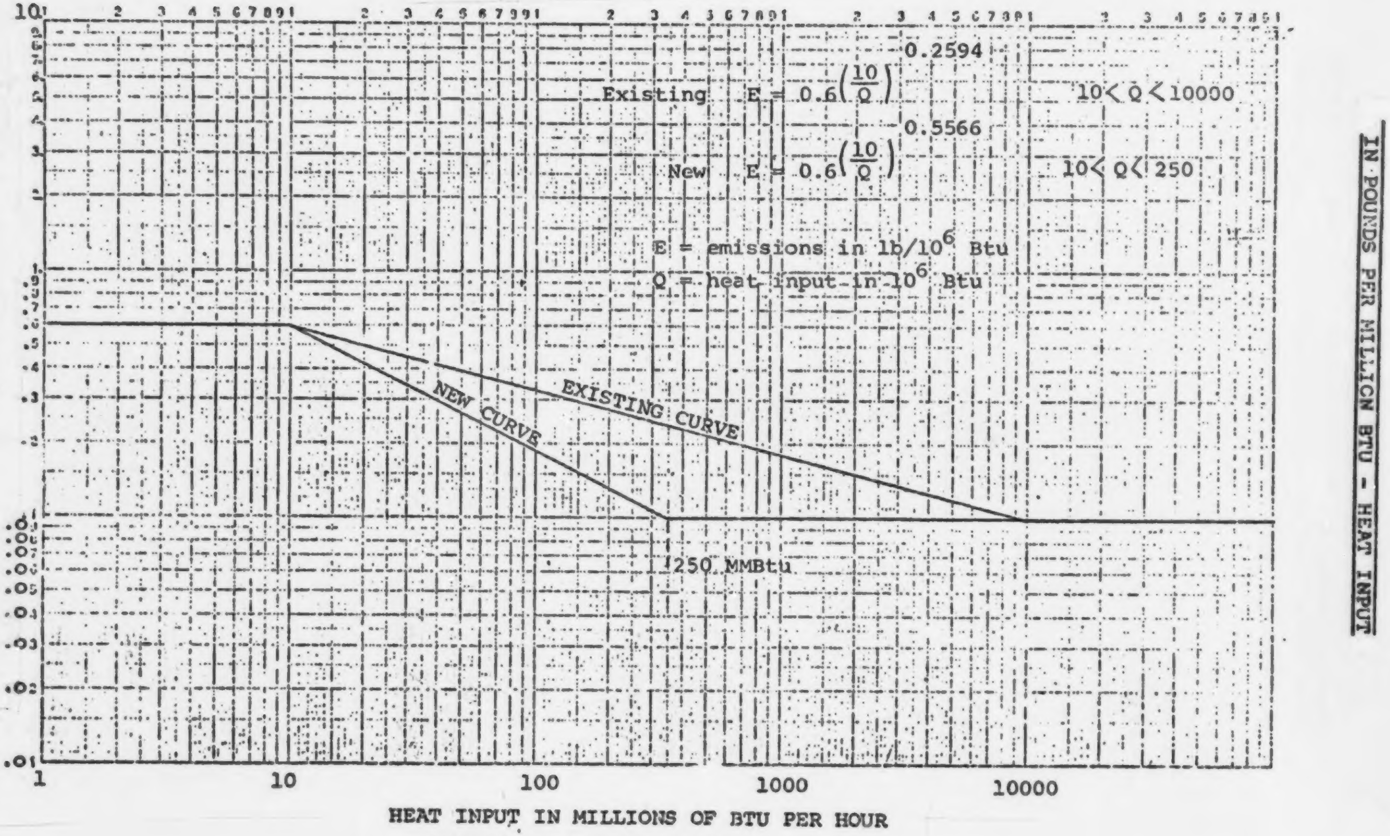

EXCLUDE GAS FIRED UNITS
FIGURE 1

per million BTU shall be permitted from any installation. Such limit shall be achieved by August 9, 1973.

$$D = \frac{20650\ a\ h}{Q^{0.75}}$$

in which D is the maximum allowable particulate emission in pounds per million BTU heat input, h is the stack height in feet, a is a dimensionless factor of 0.67 for stacks of 200 feet height and less, and o.80 for stacks in excess of 200 feet, and Q is the combined heat input in BTU per hour to the entire fuel-burning installation, the allowable emission limit as determined by the above equation shall be further reduced by dividing the emission limit so obtained by $n^{0.25}$, where n is the number of stacks of equal height. Stacks varying in height may be contrued as being of equal height provided a weighted average stack height is used in computing the allowable emission limit.

2. HEAT INPUT

The maximum allowable particulate emission limits as given in this Subsection are based upon the total plant rate of heat input to one or more stacks. Where natural gas or liquified petroleum is used as a fuel the BTU heat input from these fuels shall not be included. For existing fuel-burning installations up to and including 4000 million BTU per hour total plant heat input, the maximum allowable particulate emission shall be determined from Figure 1, existing curve, and shall be achieved by August 9, 1973.

Emission limits for all existing fuel burning installations in excess of 4000 million BTU per hour will be determined by Figure 1, existing particulate curve, up to 10,000 million BTU per hour will be determined from Figure 1. This allowable emission standard must be attained on or before July 1, 1975.

B. NEW FUEL BURNING EQUIPMENT

For fuel burning installations constructed after April 3, 1972, the maximum allowable particulate emission shall be determined from Figure 1, new particulate curve, based upon the total plant rate of heat input to one or more stacks. Where natural gas or liquified petroleum is used as a fuel, the BTU heat input from these fuels shall not be included.
This allowable emission standard must be attained at the time such fuel burning installation begins operation.

C. INCINERATORS

From and after the effective date of these Regulations, the maximum allowable particulate emission from incinerators shall be as indicated in Table 1 of this Chapter. It is further provided that from and after July 1, 1975, the particulate emission standards as given for existing incinerators shall no longer be applicable and the particulate emission standards as given for new incinerators shall be applicable to all incinerators.

MAXIMUM ALLOWABLE PARTICULATE EMISSION

STANDARDS FOR INCINERATORS

Rated or Operated Charging Rate in Pounds Per Hour	Emission Standard in Percent of Charging Rate	
	New Incinerator	Existing Incinerator
Less than 200	0.2	0.6
200 to 2000	0.2	0.4
Greater than 2000	0.1	0.4

Incincerators having 2.5 cu. ft. furnace volume or less used solely for the disposal of infective dressings and other similar material shall not be required to meet these emission standards.

D. WIGWAM BURNERS

1. EXISTING WIGWAM BURNERS

After August 9, 1973, no Wigwam Burner constructed prior to April 3, 1972 shall be issued an operating permit unless equipped to maintain a minimum exit gas temperature of 800°F. This temperature shall be achieved as rapidly as possible at start-up. The maximum start-up time shall be limited to ten (10) minutes. An auxiliary burner may be used to reduce start-up time. Only one start-up period per 24-hour day shall be permitted. To demonstrate that these requirements are met, an exit temperature sensing and recording device shall be installed and maintained in operating condition. These records shall be submitted to the Technical Secretary on a monthly basis.

Emission Limit for Existing Wigwam Burners

The maximum allowable particulate emission limit for Wigwam Burners is four tenths (0.4) pound per one hundred (100) pounds of material as charged. This limit must be achieved by not later than August 9, 1973.

2. NEW WIGWAM BURNERS

Wigwam Burners constructed or modified after April 3, 1972 shall be equipped, as a minimum, as required in Paragraph 1 of subsection D.

In addition, an operator or other designated person at the site of the wigwam burner must be certified as a qualified smoke reader. Such certified smoke reader must observe the visible emissions from the wigwam burner on at least ten (10) operating days each calendar month and record these readings on forms provided by the Technical Secretary. At least one reading must encompass start-up conditions and at least one reading must encompass shut-down conditions. Such readings shall be submitted to the Technical Secretary within ten (10) days after the end of each calendar month. If violations of the visible emissions standards are shown, a satisfactory explanation noting the cause of the violation and the corrective action taken must accompany such submittal.

Emission Limit for New Burners

The maximum allowable particulate emission limit for Wigwam Burners is three tenths (0.3) pound per one hundred (100) pounds of material as charged. Particulate test data shall be submitted annually to insure continued compliance with this emission standard.

3. EXCEPTION TO WIGWAM BURNER

a. Whenever a wigwam burner meets the more restrictive standards of Section 2(c), this Chapter, applicable to new incinerators, it is expressly provided that such wigwam burner shall be governed by the standard of Section 2(c) rather than by the standards of this subsection upon written request of the owner or the operator. Provided, however, that the owner or operator shall furnish to the Technical Secretary particulate emission test results to show compliance with the standard of Section 2(c) as an attachment to this request. Particulate test data shall be submitted annually thereafter to insure continued compliance with the emission standard of Section 2(c).

b. Whenever, in the opinion of the Technical Secretary, the design of a wigwam burner prohibits the installation of the temperatures sensing and recording device, such requirement may be waived by the Technical Secretary; provided, however, that an operator or other designated person at the site of the wigwam burner is certified as a qualified smoke reader.

Such certified smoke reader must observe the visible emissions from the wigwam burner or at least ten (10) operating days each calendar month and record these readings on forms provided by the Technical Secretary. At least one reading must encompass start-up conditions and at least one reading must encompass shut-down conditions. Such readings shall be submitted to the Technical Secretary within ten (10) days after the end of each calendar month. If violations of the visible emissions standards are shown, a satisfactory explanation noting the cause of the violation and the corrective action taken must accompany such submittal.

SECTION 3 -- GENERAL PROVISIONS AND APPLICABILITY FOR PROCESS GASEOUS EMISSION STANDARDS.

A. No person shall cause, suffer, allow or permit gaseous emissions in excess of the standards in this Chapter.

B. Construction or modification of an air contaminant source emitting gaseous air contaminants after April 3, 1972 requires the installation and utilization of the best equipment and technology currently available for controlling such gaseous emissions.

SECTION 6 -- WOOD-FIRED FUEL BURNING EQUIPMENT

A. Any wood fired fuel burning equipment commenced before the effective date of this rule must comply with the following emission standards shown below:

1. 0.330 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide for fuel burning equipment up to and including 50 million Btu per hour heat input.

2. 0.300 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide for fuel burning equipment of 100 million Btu per hour heat input or in excess thereof.

3. The allowable for wood-fired fuel burning equipment between 50 million and 100 million Btu per hour heat input is that determined by linear interpolation between the values in subparagraphs (a) and (b).

B. Any wood fired fuel burning equipment commenced on or after the effective date of this rule must comply with the emission standards shown below:

1. 0.330 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide for fuel burning equipment up to, and including, 25 million Btu per hour heat input.

2. 0.200 grains of particulate matter per standard dry cubic foot of exhaust gasses, corrected to 12% carbon dioxide for fuel burning equipment of 100 million Btu per hour heat input or in excess thereof.

3. The allowable for wood-fired fuel burning equipment between 25 million and 100 million Btu per hour heat input is that determined by linear interpolation between the values in subparagraphs (a) and (b).

C. Wood as used in this rule means:

1. Bark.

2. Sawdust or other woody plant tissues (lignified xylem) mechanically reduced in size, but not chemically changed.

3. Any combination of the materials in (a) and (b).

D. Any fuel burning installation with wood fired fuel burning equipment such that said wood fired fuel burning equipment has 100 MBtu heat input per hour or in excess thereof, then there shall be installed, calibrated, maintained and operated a photoelectric or any other type opacity monitor and recorder that has been approved by the Technical Secretary and is of the type referred to in Chapter 1200-3-5, Section 5. This paragraph does not apply where the moisture content of the exhaust is so high that condensation occurs in the stack.

E. This rule only applies to that fuel burning equipment designed to burn wood and the burning of wood provides at least 30% of the heat input of the unit. At other times the unit will revert to being regulated by Chapter 1200-3-6, Section 2. This rule does not apply to units burning coal or liquid fuels other than fuel oils.

F. Where fuel burning equipment units in the same fuel burning installation are subject to this rule and are regulated by two different grain loading limits, an average weighted directly on the flow rates will determine the allowable emission limit.

G. When a fuel burning installation has both non-wood fired fuel burning equipment and wood fired fuel burning equipment, then the wood fired units shall be considered independent of the other fuel burning equipment which would then constitute the fuel burning installation as covered under Chapter 1200-3-6, Section 2.

H. This rule shall apply to all wood-fired fuel burning equipment commenced on or after the effective date of this rule except those units in Davidson, Hamilton, Knox, and Shelby Counties. This rule shall apply to all wood-fired fuel burning equipment larger than 100 million Btu per hour heat input irrespective of when it was commenced except for those units in Davidson, Hamilton, Knox, and Shelby Counties. Chapter 1200-3-6, Section 2 and/or Chapter 16 shall apply to sources in these counties.

I. Except as mentioned in paragraph (8) of this rule, this rule shall only apply to wood-fired fuel burning equipment commenced before the effective date of this rule in Madison, Bedford, and Hamblen Counties. All other existing wood-fired fuel burning equipment of 50 million Btu per hour heat input or less shall be regulated by Chapter 1200-3-6, Section 2.

Chapter 1200-3-7

Chapter 1200-3-7

PROCESS EMISSION STANDARDS

SECTION 1 -- GENERAL PROCESS PARTICULATE EMISSION STANDARDS

A. No person shall cause, suffer, allow or permit particulate emissions in excess of the standards in this Chapter.

B. The Board shall be responsible for setting an appropriate emission standard for each process air contaminant source discharging particulate matter in any county where all such sources are emitting particulates at rates in conformity with the applicable maximum allowable emission standard and yet the ambient air quality standard for particulate matter is being exceeded in the county.

C. The owner or operator of an existing process emission source proposing to make a modification of this source or to rebuild or to replace it shall only take such action if it will result in the source meeting the maximum allowable particulate emission standard for a new process emission source.

D. For the purpose of determining the applicable particulate matter emission standards in this chapter, a change in fuel from natural gas, propane, butane and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels, shall not be considered a modification.

SECTION 2 -- CHOICE OF PARTICULATE EMISSION STANDARDS EXISTING PROCESSES

A. Any process emission source operating or under construction prior to August 9, 1969 shall attain the allowable emission standard from either the diffusion equations presented in subsection C(2) below or the Process Weight Table in Subsection 2(D) below.

The owner or operator of such a process emission source shall make known, in writing, to the Technical Secretary by July 1, 1972, his choice of emission standard. If no choice is so indicated, the Techincal Secretary shall designate the emission standard of Section 2(D) (Process Weight Table) below as the applicable standard. The emission standard chosen, either by the owner or operator or by the Technical Secretary, must be attained on or before August 9, 1973.

B. For any process emission source constructed after August 9, 1969, and before April 3, 1972, the allowable emission standard shall be the diffusion equations presented in Section 2(C) below. This standard must have been attained at the time such process emission source first commenced operation. The owner or operator of such a source shall make known in writing to the Technical Secretary by July 1, 1972, whether he wishes to continue under the diffusion equation standard or to switch to the Process Weight Table standard presented in Section 2(D) (Process Weight Table) below as the applicable standard. If the Process Weight Table standard is chosen by such owner or operator or by the Technical Secretary, then such owner or operator shall have unitl August 9, 1973 to convert fully to the Process Weight Table standard. It is expressly stipulated that in the interim period such a process emission source shall continue to observe the diffusion equation standard originally applicable.

C. For those owners or operators of process emission sources who elect to have their process emissions regulated by diffusion equations, the maximum allowable particulate emissions from such sources shall be determined by the procedures defined in (1), (2), and (3) below.

1. Stack gas exit temperature less than 100° F (See Note)

$$Q = 3.02 \times 10^{-4} V_s h_s^2 \left(\frac{d_s}{h_s}\right)^{0.71}$$

2. Stack gas exit temperatures of 125° F or greater (See Note)
   a. Stacks less than 500 feet

$$Q = 0.3h_s\ Q_T \times 0.02 \times (T_x - 60)^{0.25}$$

   b. Stacks 500 feet and greater

$$Q = 0.3h_s\ Q_T \times 0.02 \times (T_s - 60)^{0.25}$$

3. For stack gas exit temperature from 100° F to 124° F calculate allowable emission as in 1 and either 2a or 2b depending upon stack height (using T_s of 125° F) and make linear interpolation based upon actual gas exit temperature.

The terms of the preceding equations shall have the following meaning and units:

d_s - inside diameter or equivalent diameter of stack tip in feet

h_s - stack height in feet (Vertical distance above grade directly below tip of stack)

Q - Maximum allowable emission rate in pounds per hour

Q_T - volume rate of stack gas flow in cubic feet per second calculated to 60° F

T_s - temperature of stack gases at stack tip in feet per second

Note: In determining applicability of equations in this subsection based upon exit gas temperature the actual exit gas temperature must equal or exceed the stated temperature during ninety (90) percent or more of the operation time.

D. For those owners or operators of process emission sources who elect to have their process emissions regulated by the Process Weight Table, the maximum allowable particulate emissions from a process emission source shall be determined by Table 1.

E. Whichever standard is chosen, all sources at the same facility must be regulated by that standard.

SECTION 3 -- NEW PROCESS EMISSION SOURCES

The allowable emission level of particulate matter from any process emission source beginning operation on or after April 3, 1972, shall be determined by Table 2.

A. Irrespective of the maximum allowable emission as determined by any of the preceding equations or Process Weight Tables in this Chapter, the concentration of particulate process emissions shall not be required to be less than 0.02 grain per cubic foot of stack gases corrected to 70° F and 1 atmosphere unless a lesser concentration is found by the Board to be necessary.

B. Irresprective of the maximum allowable emission as determined by any of the preceding equations or Process Weight Tables in this Chapter the maximum allowable concentration of particulate process emissions shall be 0.25 grains per cubic foot of stack gases corrected to 70° F and 1 atmosphere.

SECTION 5 -- SPECIFIC PROCESS EMISSION STANDARDS

The emission limits set forth in Sections 2, 3 or 4 will apply unless a specific process emission standard for a specifically designated type of process emission source is contained in a subsequent Section of this Chapter.

SECTION 6 -- STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

The Technical Secretary may from time to time, without public hearing, designate additional standard(s) of performance for new stationary sources as promulgated by the Environmental Protection Agency and published in the Federal Register.

SECTION 7 -- GENERAL PROVISIONS AND APPLICABILITY FOR PROCESS GASEOUS EMISSION STANDARDS

A. No person shall cause, suffer, allow or permit gaseous emissions in excess of the standards in this Chapter.

B. Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after the effective date of these regulations shall install and utilize equipment and technology which is deemed reasonable and proper by the Technical Secretary.

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SECTION 9 -- HYDROCARBON EMISSIONS

A. STORAGE OF VOLATILE ORGANIC MATERIALS

No person shall place, store, or hold in any stationary tank reservoir or other container of more than 40,000 gallons capacity any volatile organic compounds unless such tank, reservoir, or other container is a pressure tank capable of maintaining working pressures, sufficient at all times to prevent vapor or gas loss to the atmosphere or is designed, and equipped with one of the following vapor loss control devices:

1. A floating roof, consisting of a pontoon type, double deck type roof, or internal floating cover which will rest on the surface of the liquid contents and be equipped with a closure seal or seals to close the space between the roof edge and tank wall. This control equipment shall not be permitted if the volatile organic compounds have a vapor pressure of 11.0 pounds per square inch absolute or greater under actual storage conditions. All tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place.

2. A vapor recovery system, consisting of a vapor gathering system capable of collecting the volatile organic compound vapors and gases discharged and a vapor disposal system capable of processing such volatile organic vapors and gases so as to prevent their emission to the atmosphere and with all tank gauging and sampling devices gas-tight except when gauging or sampling is taking place.

3. Other equipment or means of equal efficiency for purposes of air pollution control as may be approved by the Technical Secretary.

4. No person shall place, store, or hold in any stationary storage vessel of more than 250-gallon capacity any volatile organic compound unless such vessel is equipped with a permanent submerged fill pipe or is a pressure tank as described in subsection B or is fitted with a vapor recovery system as described in B(2).

B. VOLATILE ORGANIC MATERIALS LOADING FACILITIES

1. No person shall load any volatile organic compounds into any tank, truck, or trailer from any loading facility unless such loading facility is equipped with a vapor collection and disposal system or its equivalent, properly installed, in good working order, and in operation.

2. No person shall load any volatile organic compounds into any tank, truck, or trailer from any loading facility unless such loading facility is equipped with a loading arm with a vapor collection adaptor. Pneumatic, hydraulic, or other mechanical means shall be provided to force a vapor-tight seal between the adaptor and the hatch. A means shall be provided to prevent liquid organic compounds drainage from the loading device when it is removed from the hatch of any tank, truck, or trailer, or to accomplish complete drainage before such removal. When loading is effected through means other than hatches, all loading and vapor lines shall be equipped with fittings which make vapor-tight connections and which close automatically when disconnected.

C. VOLATILE ORGANIC COMPOUND WATER SEPARATION

No person shall use any compartment of any single or multiple compartment volatile organic compound water separation device which compartment receives effluent water containing 200 gallons a day or more or any volatile organic compound from any equipment processing, refining, treating, storing, or handling volatile organic compounds having a Reid vapor pressure of 0.5 pounds or greater unless such compartment is equipped with one of the following vapor loss control devices, properly installed, in good working order, and in operation:

1. A container having all openings sealed and totally enclosing the liquid contents. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

2. A container equipped with a floating roof, consisting of a pontoon-type or double-deck type roof, or internal floating cover, which will rest on the surface of the contents and be equipped with a closure seal or seals to close the space between the roof edge and container wall. All gauging and sampling devices shall be gas-tight except when gauging or sampling is taking place.

3. A container equipped with a vapor recovery system consisting of a vapor gathering system capable of collecting the organic vapors and gases discharged and a vapor disposal system capable of processing such organic vapors and gases so as to prevent their emission to the atmosphere and with all container gauging and sampling devices gas-tight except when gauging or sampling is taking place.

4. A container having other equipment of equal efficiency for purposes of air pollution control as may be approved by the Technical Secretary.

D. PUMPS AND COMPRESSORS

All pumps and compressors handling volatile organic compounds shall have mechanical seals or other equipment of equal efficiency for purposes of air pollution control as may be approved by the Technical Secretary.

E. WASTE GAS DISPOSAL

1. No person shall emit a waste gas stream from any ethylene producing plant into the atmosphere unless the waste gas stream is properly burned to 1,000° for 0.3 seconds or greater in a direct-flame afterburner equipped with an indicating pyrometer which is positioned in the working area at the operator's eye level or an equally effective catalytic vapor incinerator also with pyrometer.

2. No person shall emit organic gases to the atmosphere from a vapor blow-down system unless these gases are burned by smokeless flares, or an equally effective control device as approved by the Technical Secretary.

F. ORGANIC SOLVENTS

1. A person shall not discharge into the atmosphere more than 15 pounds of organic materials in any one day, nor more than 3 pounds in any one hour, from any article, machine, equipment, or other contrivance, in which any organic solvent or any material containing organic solvent comes into contact with flame or is baked, heat-cured or heat-polymerized, in the presence of oxygen, unless said discharge has been reduced by at least 85 percent. Those portions of any series of articles, machines, equipment or other contrivance designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.

2. A person shall not discharge into the atmosphere more than 40 pounds of organic materials in any one day, nor more than 8 pounds in any one hour, from any article, machine, equipment or other contrivance used under conditions other than described in G(2) for employing, or applying, any photochemically reactive solvent, as defined in G(10) or material containing such photochemically reactive solvent, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included

shall be INCLUDED

in determining compliance with this section. Emissions resulting from baking, heat-curing, or heat-polymerizing as described in G(1) shall be excluded from determination of compliance with this section. These portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.

3. A person shall not discharge into the atmosphere more than 3,000 pounds of organic materials in any one day, nor more than 450 pounds in any one hour, from any article, machine, equipment or other contrivance in which any non-photochemically reactive organic solvent or any material containing such solvent is employed or applied, unless said discharge has been reduced by at least 85 percent. Emissions of organic materials into the atmosphere resulting from air or heated drying of products for the first 12 hours after their removal from any article, machine, equipment, or other contrivance described in this section shall be included in determining compliance with this section. Emission resulting from baking, heat-curing, heat-polymerizing as described in G(1) shall be excluded from determination of compliance with this section. Those portions of any series of articles, machines, equipment or other contrivances designed for processing a continuous web, strip, or wire which emit organic materials and using operations described in this section shall be collectively subject to compliance with this section.

4. Emissions of organic materials to the atmosphere from the cleanup with photochemically reactive solvent, as defined in G(10) of any article, machine, equipment or other contrivance described in G(1), G(2), or G(3) shall be included with the other emissions or organic materials from that article, machine, equipment or other contrivance for determining compliance with rule.

5. Emissions of organic materials into the atmosphere required to be controlled by G(1), G(2), or G(3):

    a. Incineration, provided that 90 percent or more of the carbon in the organic material being incinerated is oxidized to carbon dioxide, or

    b. Absorption, or

    c. Processing in a manner determined by the Technical Secretary to be not less effective than (a) or (b) above.

6. A person incinerating, absorbing, or otherwise processing organic materials pursuant to this rule shall provide, properly install and maintain in calibration, in good working order and in operation, devices as specified in the authority to construct or the permit to operate, or as specified by the Technical Secretary, for indicating temperatures, pressures, rates of flow or other operating conditions necessary to determine the degree and effectiveness of air pollution control.

7. Any person using organic solvents or any materials containing organic solvents shall supply the Technical Secretary, upon request and in the manner and form prescribed by him, written evidence of the chemical composition, physical properties and amount consumed for each organic solvent used.

8. The provisions of this rule shall not apply to:

   a. The manufacture of organic solvents, or the transport or storage of organic solvents or materials containing organic solvents.

   b. The use of equipment for which other requirements are specified by subsection B, C, or D which are exempt from air pollution control requirements by said rules.

   c. The spraying or other employment of insecticides, pesticides or herbicides.

   d. The employment, application, evaporation or drying of saturated halogenated hydrocarbons or perchlorethylene.

   e. The use of any material, in any article, machine, equipment or other contrivance described in G(1), G(2), G(3) G(4) if:

      1. the volatile content of such material consists only of water and organic solvents, and

      2. the organic solvents comprise not more than 20 percent of said volatile content, and

      3. the volatile content is not photochemically reactive as defined in G(10).

9. For the purpose of this rule, organic solvents include diluents and thinners and are defined as organic materials which are liquids at standard conditions and which are used as dissolvers, viscosity reducers or cleaning agents,

except that such materials which exhibit a boiling point higher than 220° F at 0.5 millimeter mercury absolute pressure or having an equivalent vapor pressure shall not be considered to be solvents unless exposed to temperatures exceeding 220° F.

10. For the purposes of this rule, a photochemically reactive solvent is any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations, referred to the total volume of solvent:

    a. A combination of hydrocarbons, alchohols, aldehydes, esters, ethers or ketones having an olefinic or cycloolefinic type of unsaturation: 5 percent;

    b. A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent;

    c. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the above groups of organic compounds, it shall be considered as a member of the most reactive chemical group, that is, that group having the least allowable percent of the total volume of solvents.

11. For the purpose of this rule, organic materials are defined as chemical compounds of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbies, metallic carbonates and ammonium carbonate.

G. DISPOSAL AND EVAPORATION OF SOLVENTS

A person shall not, during any one day, dispose of a total of more than 1½ gallons of any photochemically reactive solvent, as defined in G(10), or of any material containing more than 1½ gallons of any such photochemically reactive solvent by any means which will permit the evaporation of such solvent into the atmosphere.

SECTION 10 -- SPECIFIC PROCESS EMISSION STANDARDS

A. SULFURIC ACID PLANTS

1. EXISTING SULFURIC ACID PLANTS

No later than July 1, 1975, no person shall cause, suffer, allow or permit the following emission into the open air from any sulfuric acid plant under construction or in operation prior to April 3, 1972.

a. Sulfur dioxide in the effluent in excess of 6.5 pounds per ton of acid produced, maximum 2 hour average or 500 ppm (0.05% by volume dry basis) of sulfur dioxide.

b. Sulfuric acid mist in the effluent in excess of 0.50 pound per ton of acid produced, maximum 2 hour average expressed as H_2SO_4.

2. NEW SULFURIC ACID PLANTS

No person shall cause, suffer, allow or permit the following emission into the open air from any sulfuric acid plants constructed after April 3, 1972 in excess of the following:

a. Sulfur dioxide in the effluent in excess of 4 pounds per ton of acid produced, maximum 2 hour average, or 350 parts per million (0.35 percent by volume dry basis) of sulfur dioxide, whichever is the more restrictive.

b. Sulfuric acid mist in the effluent in excess of 0.15 pound per ton of acid produced, maximum 2 hour average, expressed as H_2SO_4.

B. EXISTING FERROUS JOBBING CUPOLAS

No later than August 9, 1973, the maximum particulate emission rate from existing ferrous jobbing cupolas shall be as given in subsection B(1) (Table 3), or subsection 2 whichever is appropriate.

TABLE 3

ALLOWABLE RATE OF PARTICULATE EMISSION BASED ON PROCESS WEIGHT RATE

EXISTING FERROUS JOBBING CUPOLAS

Process Weight (#/hr)	Maximum Weight Dishcarge (#/hr)
1,000	3.05
2,000	4.70
3,000	6.35

Process Weight (#/hr)	Maximum Weight Discharge (#/hr)
4,000	8.00
5,000	9.58
6,000	11.30
7,000	12.90
8,000	14.30
9,000	15.50
10,000	16.65
12,000	18.70
16,000	21.60
18,000	23.40
20,000	25.10

The emission rate for a process weight intermediate to those shown in the Table shall be determined by linear interpolation.

2. Any existing ferrous jobbing cupola which melts ten (10) tons or less per 24 hour day shall be deemed in compliance if particulate emissions do not exceed eight (8) pounds per ton of metal melted.

C. EXISTING COTTON GINS

1. No person shall cause, or permit the emission of particulate matter in any one hour from any cotton gin operation in excess of the amount shown in Table 4 for the process weight per hour allocated to such operation. Particulate matter emissions subject to this Part include process emissions and wigwam or incinerator emissions if any; provided, however, that this shall in no way relieve or affect the application of Chapter IV, Chapters V and VI at cotton gin operations.

2. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this Part, the interpretation that results in the minimum value for allowable emission shall apply.

3. For purposes of this Part, the total process weight from all similar process units at a plant or premises shall be used for determining the maximum allowable emission of particulate matter that passes through a stack or stacks.

TABLE 4

ALLOWABLE PARTICULATE MATTER EMISSION BASED ON PROCESS WEIGHT RATE FOR COTTON GINS

Process Weight Rate (lb/hr)	Allowable Emission Rate (lb/hr)	Process Weight Rate (lb/hr)	Allowable Emission Rate (lb/hr)
1,000	1.6	9,000	13.7
1,500	2.4	10,000	15.2
2,000	3.1	12,000	18.2
2,500	3.0	14,000	21.2
3,000	4.7	16,000	24.2
3,500	5.4	18,000	27.2
4,000	6.2	20,000	30.1
5,000	7.7	30,000	44.9
6,000	9.2	40,000	59.7
7,000	10.7	50,000	64.0
8,000	12.2	60,000 or more	67.4

The emission rate for a cotton gin intermediate between those shown in Table 4 shall be determined by linear interpolation.

D. EMISSION FROM NITRIC ACID PLANTS

1. Existing Nitric Acid Plants

After July 1, 1975, no person shall cause, suffer, allow or permit the emission into the open air of nitrogen oxides from any nitric acid plant under construction or in operation prior to April 3, 1972, which are:

in excess of 5.5 lbs per ton of acid produced maximum 2 hour average, expressed as NO_2; or

400 ppm (0.04% by volume dry basis) of nitrogen oxides, measured as NO_2, whichever is the more restrictive.

2. New Nitric Acid Plants

After April 3, 1972, no person shall cause, suffer, allow or permit the emission into the open air of nitrogen oxides from any new nitric acid plants which are in excess of:

1. 3 lbs per ton of acid produced, maximum 2-hour average, expressed as NO_2; or 209 ppm (0.0209% by volume dry basis) of nitrogen oxides, measured as NO_2, whichever is the more restrictive.

E. NEW PORTLAND CEMENT PLANTS

After April 3, 1972, no person shall cause, suffer, allow or permit the emission into the open air of particulates from any new portland cement plant which are:

1. From the kiln in excess of 0.30 lb per ton of feed to the kiln, maximum 2-hour average;
2. From the clinker cooler in excess of 0.10 lb. per ton of feed to the kiln, maximum 2-hour average.

F. EXISTING KRAFT MILLS

After August 9, 1973, no person shall cause, suffer, allow or permit particulate emissions from a kraft mill under construction or operation to April 3, 1972 in excess of the standard chosen in Chapter VII, Section 2(A) or 2(B); provided, however, that after July 1, 1977 said emissions are as follows:

1. Particulate matter from all recovery stacks shall not exceed three pounds per ton of equivalent air-dried kraft pulp.
2. Particulate matter from all lime kilns shall not exceed one pound per ton of equivalent air dried kraft pulp.
3. Particulate matter from all smelt tanks shall not exceed one-half pound per ton of equivalent air dried kraft pulp.

G. EXISTING ASPHALT PLANTS

After August 9, 1973, no person shall cause, suffer, allow or permit particulate emission from any asphalt plant, under construction or in operation prior to April 3, 1972, in excess of the standard chosen in Chapter VII, Section 2(A) or 2(B); provided, however, that no later than July 1, 1975, these emissions shall not be in excess of the following:

Process Weight Rate (lbs/hr)	Rate of Emission #/hr
100	0.551
200	0.877
400	1.40
600	1.85
800	2.22
1,000	2.58
1,500	3.38
2,000	4.10

Process Weight Rate (lbs/hr)	Rate of Emission #/hr
2,500	4.76
3,000	5.38
3,500	5.96
4,000	6.52
5,000	7.58
6,000	8.56
7,000	9.49
8,000	10.4
9,000	11.2
12,000	13.6
16,000	16.5
18,000	17.9
20,000	19.2
30,000	25.2
40,000	30.5
50,000	35.4
60,000 or more	40.0

Interpolation of the data in this table for process weight rates up to 60,000 lbs/hr shall be accomplished by the use of the equation $E = 4.10P^{0.67}$, E = rate of emission is lbs/hr and P = process weight rate in tons/hr.

Section 11 -- CARBON MONOXIDE, ELECTRIC ARC FURNACES

Electric arc furnaces used in producing iron or steel and located in Knox County shall emit no more than 18.0 pounds of carbon monoxide per ton of metal produced, one hour average.

CHAPTER 1200-3-8

FUGITIVE DUST

SECTION 1 -- GENERAL

A. No person shall cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in demolition of existing buildings or structures, construction operations, grading of roads or the clearing of land:

2. Application of asphalt, oil, water or suitable chemicals on dirt roads, materials stock piles, and other surfaces which can create airborne dusts:

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

B. No person shall cause, suffer, allow or permit fugitive dust to be emitted in such manner to exceed five (5) minutes per hour or twenty (20) minutes per day as to produce a visible emission beyond the property line of the property on which the emission originates excluding malfunction of equipment as provided in Chapter X, Section 3.

SECTION 2 -- COMPLIANCE SCHEDULE

A. For those operations under construction or in operation prior to April 3, 1972, fugitive dust control must be achieved by August 9, 1973.

B. For those operations, the construction of which commences after April 3, 1972, fugitive dust control must be achieved at the time operation commences.

TABLE 1

EXISTING PROCESS EMISSION SOURCES

ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE[a]

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.0	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58	50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000	77.6
10,000	5.00	12.0	6,000,000	3,000	92.7
12,000	6.00	13.6			

[a] Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation $E = 4.10\ p^{0.67}$ and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:

$E = 55.0p^{0.11} - 40$, where E = rate of emission in lb/hr

and p = process weight rate in tons/hr.

TABLE 2

NEW PROCESS EMISSION SOURCES

ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE [a]

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
50	0.025	0.03	16,000	8.00	13.0
100	0.05	0.55	18,000	9.00	14.0
200	0.10	0.86	20,000	10.	15.0
400	0.20	1.32			
600	0.30	1.70	30,000	15.	19.2
800	0.40	2.03	40,000	20.	23.0
1,000	0.50	2.34	50,000	25.	26.4
1,500	0.75	3.00	60,000	30.	29.6
2,000	1.00	3.59	70,000	35.	30.6
2,500	1.25	4.12	80,000	40.	31.2
3,000	1.50	4.62	90,000	45.	31.8
3,500	1.75	5.08	100,000	50.	32.4
4,000	2.00	5.52	120,000	60.	33.3
5,000	2.50	6.34	140,000	70.	34.2
6,000	3.00	7.09	160,000	80.	34.9
7,000	3.50	7.81	200,000	100.	36.1
8,000	4.00	8.5	1,000,000	500.	46.7
9,000	4.50	9.1			
10,000	5.00	9.7			
12,000	6.00	10.9			

[a] Interpolation of the date in Table 2 for the process weight rates up to 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 3.59\ P^{0.62} \qquad P \geq 30 \text{ tons/hr}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 17.31\ P^{0.16} \qquad P > 30 \text{ tons/hr}$$

Where: E = Emissions in pounds per hour

P = Process weight rate in tons per hour

CHAPTER 1200-3-9

CONSTRUCTION AND OPERATING PERMITS

SECTION 1 -- CONSTRUCTION PERMIT

(1) On and after the effective date of these regulations, no person shall begin the construction of a new facility or the modification of a facility existing prior to the effective date of this regulation which may result in the discharge of air contaminants without first having applied for and received from the Technical Secretary a construction permit for the construction or modification of such facility.

(2) The application for a construction permit shall be made on forms available from the Technical Secretary not less than ninety (90) days prior to the estimate starting date of construction. Sources identified in paragraph 1200-3-9-.01-(4) shall make application for a construction permit not less than one hundred twenty (120) days prior to the estimated date of construction.

(3) In the event the requirement for a construction permit prior to the construction of a new facility or the modification of any existing facility will create an undue hardship on the applicant, the applicant may request of the Technical Secretary a waiver to proceed with construction or modification prior to the issuance of a Construction Permit. The applicant for a waiver shall explain the circumstances which will cause such undue hardship. The request for a waiver shall be accompanied by a request for a construction permit on forms available from the Technical Secretary. The applicant, after a waiver is granted, proceeds at his own risk; and if after construction or modification has begun or been completed, the proposed or completed installation does not meet with the Technical Secretary's approval, alterations required to effect such approval shall be made within a reasonable time as specified by the Technical Secretary. In no case shall this reasonable time exceed 180 days after notification that the construction or modification does not meet the Technical Secretary's approval. The Technical Secretary cannot grant a waiver for any source emitting a hazardous air contaminant or to any source identified in paragraph (4) below.

(17.0) **Rule 1200-3-9-.01-(4) Prevention of Significant Air Quality Deterioration**

(a) General Provisions

1. No major stationary source or major modification, as defined in parts (b) 1. and (b) 2. of this paragraph, shall be constructed unless the requirements of this paragraph, as applicable, have been met.

2. The requirements of this paragraph shall apply to a proposed source or modification only with respect to those pollutants for which it would be a major stationary source or major modification.

3. Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this paragraph or with the terms of any approval to construct, or any owner or operator of a source or modification subject to this paragraph who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to appropriate enforcement action.

4. Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Technical Secretary may extend the 18-month period upon a satisfactory showing that an extension is justified. The provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.

5. Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the State implementation plan and any other requirements under local, State, or Federal law.

(b) Definitions. As used in this paragraph, all terms not defined herein shall have the meaning given them in Chapter 1200-3-2.

1. "Major stationary source" means:

(i) Any of the following stationary sources, which emit or have the potential to emit, 100 tons per year or more of any air pollutant regulated under this Division 1200-3

(I) Fossil-fuel fired steam electric plants of more than 250 million BTU per hour heat input.

(II) Municipal incinerators capable of charging more than 250 tons of refuse per day.

(III) Fossil-fuel boilers (or combinations thereof) totaling more than 250 million BTU per hour heat input.

(IV) Petroleum storage and transfer facilities with a total storage capacity exceeding 300,000 barrels.

(V) Coal cleaning plants (with thermal dryers)

(VI) Kraft pulp mills

(VII) Portland cement plants

(VIII) Primary zinc smelters

(IX) Iron and steel mill plants

(X) Primary aluminum ore reduction plants

(XI) Primary copper smelters

(XII) Hydrofluoric acid plants

(XIII) Sulfuric acid plants

(XIV) Nitric acid plants

(XV) Petroleum refineries

(XVI) Lime plants

(XVII) Phosphate rock processing plants

(XVIII) Coke oven batteries

(XIX) Sulfur recovery plants

(XX) Carbon black plants (furnace process)

(XXI) Primary lead smelters

(XXII) Fuel conversion plants

(XXIII) Sintering plants

(XXIV) Secondary metal production plants

(XXV) Chemical process plants

(XXVI) Taconite ore processing plants

(XXVII) Glass fiber processing plants

(XXVIII) Charcoal production plants

(ii) Any source which emits or has the potential to emit 250 tons per year or more of any air pollutant regulated under this Division 1200-3

2. "Major modification" means any physical change in, change in the method of operation of, or addition to a stationary source which increases the potential emission rate of any air pollutant regulated under this Division 1200-3 (including any not previously emitted and taking into account all accumulated increases in potential emissions occurring at the source since August 7, 1977,

or since the time of the last construction approval issued for the source pursuant to this paragraph, whichever time is more recent, regardless of any emission reductions achieved elsewhere in the source) by either 100 tons per year or more for any source category identified in subpart (b)-1.-(i) of this paragraph, or by 250 tons per year or more for any stationary source.

(i) A physical change shall not include routine maintenance, repair and replacement.

(ii) A change in the method of operation, unless previously limited by enforceable permit conditions, shall not include:

(I) An increase in the production rate, if such increase does not exceed the operating design capacity of the source specified on the latest operating or construction permit;

(II) An increase in the hours of operation;

(iii) A change in the method of operation shall not include:

(I) Use of an alternative fuel or raw material by reason of an order in effect under Sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), or by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act;

(II) Use of an alternative fuel or raw material, if prior to January 6, 1975, the source was capable of accommodating such fuel or material.

(III) Use of an alternative fuel by reason of an order or rule under Section 125 of the Clean Air Act;

(IV) Change in ownership of the source.

3. "Potential to emit" means the capability at maximum capacity to emit a pollutant in the absence of air pollution control equipment. "Air pollution control equipment" includes control equipment which is not, aside from air pollution control laws and regulations, vital to production of the normal product of the source or to its normal operation. Annual potential shall be based on the maximum annual rated capacity of the source or facility, unless the source or facility is subject to enforceable permit conditions which limit the annual hours of operation. Enforceable permit conditions on the type or amount of materials combusted or processed may be used in determining the potential emission rate of a source or facility.

4. "Source" means any structure, building, facility, equipment, installation, or operation (or combination thereof) which is located

on one or more contiguous or adjacent properties and which is owned or operated by the same person (or by persons under common control).

5. "Facility" means an identifiable piece of process equipment. A source is composed of one or more pollutant-emitting facilities.

6. "Fugitive dust" means particulate matter composed of soil which is uncontaminated by pollutants resulting from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces and soil storage piles and other activities in which soil is either moved, stored, transported, or redistributed.

7. "Baseline concentration" means that ambient concentration level reflecting actual air quality as of August 7, 1977, minus any contribution from major stationary sources and major modifications on which construction commenced and all necessary preconstruction approvals and/or permits were obtained on or after January 6, 1975. The baseline concentration shall include contributions from:

   (i) The actual emissions of other sources in existence on August 7, 1977, and

   (ii) The allowable emissions of major stationary sources and major modifications which commenced construction and obtained all necessary preconstruction approvals and/or permits before January 6, 1975, but were not in operation by August 7, 1977.

8. "Federal Land Manager" means, with respect to any lands in the United States, the Secretary of the department with authority over such lands.

9. "High terrain" means any area having an elevation 900 feet or more above the base of the stack of a source.

10. "Low terrain" means any area other than high terrain.

11. "Reconstruction" will be presumed to have taken place where the fixed capital cost of the new components exceed 50 percent of the fixed capital cost of a comparable entirely new facility or source. A reconstructed source will be treated as a new source for purposes of this paragraph, except that use of an alternative fuel or raw material by reason of an order in effect under section 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation), by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act, or by reason of an order or rule under section 125 of the Clean Air Act, shall not be considered reconstruction.

12. "Fixed capital cost" means the capital needed to provide all of the depreciable components.

13. "Allowable emissions" means the emission rate calculated using the maximum rated capacity of the source (unless the source is subject to enforceable permit conditions which limit the operating rate, or hours of operation, or both) and the most stringent of the following:

(i) Applicable standards as set forth in this Division 1200-3, or

(ii) The emission rate specified as a permit condition.

(c) Major stationary sources, major modifications of sources, and reconstruction of sources are subject to the provisions of this paragraph.

(d) Major stationary sources and major modifications are exempt from the provisions of this paragraph if one or more of the following conditions are met:

1. The major source or major modification received all state, local, and Federal approval to construct prior to March 1, 1978, commenced construction before March 19, 1979, did not discontinue construction for a period of 18 months, and completed construction within a reasonable time.

2. A portable facility which has previously received construction approval under the requirements of this paragraph may relocate if:

(i) Emissions from the facility would not exceed allowable emissions,

(ii) Emissions from the facility would not significantly impact a Class I area or an area where an applicable increment is known to be violated,

(iii) and, notice is given to the Technical Secretary 30 days prior to the relocation, giving the new location and the probable length of operation at the new location.

(e) Requirements of Source Owner or Operator.

1. Submit all data necessary to make the analyses and determinations required under this paragraph.

(i) The data shall include:

(I) A description of the nature, location, design capacity, and typical operating schedule of the source or modification, including specifications and drawings needed for the review showing its design and plant layout.

(II) A detailed schedule for construction of the source or modification.

(III) A detailed description as to what system of continuous emission reduction is planned for the source or modification, emission estimates, and any other information necessary to determine that best available control technology would be applied where required by this paragraph.

(IV) The impairment to visibility, soils, and vegetation that would occur as a result of the source or modification and the associated general commercial, residential, industrial, and other growth. Vegetation having no significant commercial or recreational value may be excluded from the analysis.

(V) The air quality impact projected for the area as a result of general commercial, residential, industrial, and other growth associated with the source or modification.

(VI) As necessary, an analysis of the preceeding years monitoring data for any pollutant emitted by the source or modification, or if approved, a portion or portions of that or a previous representative year, adequate to determine that the source or modification would not cause or contribute to a violation of an ambient air quality standard, except non-methane hydrocarbons, covered by Chapter 1200-3-3, Table 1.

(ii) Upon request by the Technical Secretary, the owner or operator shall also provide information on:

(I) The air quality impact of the source or modification, including meteorological and topographical data.

(II) The air quality impacts, and the nature and extent of any or all general commercial, residential, industrial, and other growth which has occurred since August 7, 1977, in the area the source or modification would affect. Such data in the possession of the Division shall be made available to the owner or operator.

(III) Air quality monitoring, after the source or modification is constructed, to establish the effect which emissions from the source or modification of a pollutant for which a standard under Chapter 1200-3-3, Table 1 exists (except non-methane hydrocarbons) may have, or is having, on air quality in any area which such emissions would affect.

2. Except as provided in 1200-3-9-.01-(4)-(k), shall demonstrate that no ambient air quality standards (Chapter 1200-3-3, Table 1) or the applicable maximum allowable increase over the baseline will be violated as a result of the source or modification and all other applicable emissions increases or decreases.

3. Insure that the major stationary source or the major modification shall meet all applicable emission limitations of this Division 1200-3.

4. The applicant for the construction of a source or modification covered by this paragraph shall pay the cost of all publications required under this paragraph.

(f) Ambient Air Increments. In areas designated as class I, II, or III, increases in pollutant concentration over the baseline concentration shall be limited to the following:

Maximum Allowable Increase
(Micrograms per cubic meter)

Class I

Pollutant	
Particulate matter:	
Annual geometric mean	
24-hour maximum	5
Sulfur dioxide:	10
Annual arithmetic mean	
24-hour maximum	2
3-hour maximum	5
	25

Class II

Particulate matter:	
Annual geometric mean	
24-hour maximum	19
Sulfur dioxide:	37
Annual arithmetic	
24-hour maximum	20
3-hour maximum	91
	512

Class III

Particulate matter:	
Annual geometric mean	
24-hour maximum	37
Sulfur dioxide:	75
Annual arithmetic mean	
24-hour maximum	40
3-hour maximum	182
	700

For any period other than an annual period, the applicable maximum allowable increase may be exceeded during one such period per year at any one location.

(g) Area classifications - For the purpose of this paragraph, the following classifications shall apply:

1. Class I Areas - Great Smoky Mountains National Park, Joyce Kilmer Slickrock National Wilderness Area, and the Cohutta Wilderness Area.

2. Class III Areas - None

3. Class II Areas - Remainder of the state

Areas in surrounding states are classified as specified in the EPA approved implementation plan for each adjoining state.

(h) Restrictions on area classifications.

1. The Great Smoky Mountains National Park, the Joyce Kilmer Slickrock National Wilderness Area, and the Cohutta Wilderness Area may be designated only as Class I.

2. A national park or national wilderness area established after August 7, 1977, which exceeds 10,000 acres in size may be redesignated only as a class I or class II area.

(i) Ambient air ceilings

1. No concentration of a pollutant shall exceed the concentration permitted under the Tennessee secondary ambient air quality standard (Chapter 1200-3-3, Table 1), or

2. The concentration permitted under the Tennessee primary ambient air quality standard (Chapter 1200-3-3, Table 1), whichever concentration is lowest for the pollutant for a period of exposure.

3. Except as permitted by Section 123 of the Clean Air Act Amendments of 1977, dispersion techniques which exceed good engineering practice, and which were implemented after December 31, 1970, will not be considered when determining the emission limitations required for control of any pollutant.

(j) Exclusions from increment consumption.

1. The following concentrations shall be excluded in determining compliance with a maximum allowable increase:

   (i) Concentrations attributable to the increase in emissions from facilities which have converted from the use of petroleum products, natural gas, or both by reason of an order in effect under Sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) over the emissions from such sources before the effective date of such order;

(ii) Concentrations attributable to the increase in emissions from sources which have converted from using natural gas by reason of a natural gas curtailment plan in effect pursuant to the Federal Power Act over the emissions from such sources before the effective date of such plan;

(iii) Concentrations of particulate matter attributable to the increase in emissions from construction or other temporary activities.

2. No exclusion under sub-parts (j) 1. (i) or (ii) of this paragraph shall apply more than five years after the effective date of the order to which sub-part (j) 1. (i) refers or the plan to which sub-part (j) 1. (ii) refers, whichever is applicable. If both such order and plan are applicable, no such exclusion shall apply more than five years after the later of such effective dates.

3. Concentrations which the owner or operator has shown to be fugitive dust.

(k) Control Technology Review.

1. A new major stationary source or major modification shall apply best available control technology for each applicable pollutant, unless the increase in allowable emissions of that pollutant from the source or modification would be less than 50 tons per year, 1,000 pounds per day, or 100 pounds per hour, whichever is most restrictive.

(i) The preceding hourly and daily rates shall apply only with respect to a pollutant for which an increment, or state ambient air quality standard, for a period of less than 24 hours or for a 24 hour period, as appropriate, has been established.

(ii) In determining whether and to what extent a modification would increase allowable emissions, there shall be taken into account no emission reductions achieved elsewhere at the facility at which the modification would occur.

2. In the case of a modification, the requirement for best available control technology shall apply only to each new or modified facility which would increase the allowable emissions of an applicable pollutant.

3. Where a facility within a source would be modified but not reconstructed, the requirements for best available control technology, notwithstanding part (k) -1. of this paragraph, shall not apply to such facility if no net increase in emissions of an applicable pollutant would occur at the source, taking into account all emission increases and decreases at the source which would accompany the modification, and if no adverse air quality impact would occur.

4. For phased construction projects the determination of best available control technology shall be reviewed, and modified as appropriate, at the latest reasonable time prior to commencement of construction of each independent phase of the proposed source or modification.

(l) Exemptions from impact analyses.

1. The requirements of items (e)-1.-(i)-IV, V, VI, sub-parts (e)-1.-(ii) and part (e)-2., of this paragraph shall not apply to a major stationary source or major modification with respect to a particular pollutant, if -

   (i) The increase in allowable emissions of that pollutant from the source or modification would significantly impact no Class I area and no area where an applicable increment is known to be violated; and

   (ii) The increase in allowable emissions of that pollutant from the source or modification would be less than 50 tons per year, 1000 pounds per day, or 100 pounds per hour, whichever is more restrictive; or

   (iii) The emissions of the pollutant are of a temporary nature including but not limited to those from a pilot plant, a portable facility construction, or exploration; or

   (iv) A source is modified, but no increase in the net amount of emissions for any pollutant regulated under Chapter 1200-3-3, Table 1 and no adverse air quality impact would occur.

   (v) As to that pollutant, the source or modification is subject to Rule 1200-3-9-.01-(5) and the source or modification would significantly impact no area attaining the state ambient air quality standards.

2. The hourly and daily rates set in sub-part (l) 1. (ii) of this paragraph shall apply only with respect to a pollutant for which an increment, or ambient air quality standard, for a period of less than 24 hours or for a 24 hour period, as appropriate, has been established under Chapter 1200-3-3, Table 1

3. In determining for the purpose of sub-part (l) 1. (ii) of this paragraph whether and to what extent the modification would increase allowable emissions, there shall be taken into account no emission reduction achieved elsewhere at the source at which the modification would occur.

4. In determining for the purpose of sub-part (l) 1. (iv) of this paragraph whether and to what extent there would be an increase in the net amount of emissions for any pollutant subject to Chapter 1200-3-3, Table 1 from the source which is modified, there shall be taken into account all emission increases and decreases occurring at the source since August 7, 1977.

5. The requirements of items (e)-1.-(i)-IV, V, VI, sub-part (e)-1.- (ii) and part (e)-2. of this paragraph shall not apply to a major modification with respect to emissions from it which the owner or operator has shown to be fugitive dust.

(m) Air Quality Models.

All estimates of ambient concentrations required under this paragraph shall be based on the applicable air quality models, data bases, and other requirements specified by the Technical Secretary.

(n) Public Participation

1. Within 30 days after receipt of an application to construct, or any addition to such application, the Technical Secretary shall advise the applicant of any deficiency in the application or in the information submitted. In the event of such a deficiency, the date of receipt of the application shall be, for the purpose of this section, the date on which the Technical Secretary received all required information.

2. The Technical Secretary shall make a final determination on the application no later than one year after receipt of a complete application. This involves performing the following actions:

   (i) Make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.

   (ii) Make available in at least one location in each region in which the proposed source or modification would be constructed a copy of all materials the applicant submitted, a copy of the preliminary determination and a copy or summary of other materials, if any, considered in making the preliminary determination.

   (iii) Notify the public, by advertisement in a newspaper of general circulation in each region in which the proposed source or modification would be constructed, of the application, the preliminary determination, the degree of increment consumption that is expected from the source or modification, and the opportunity for comment at a public hearing as well as written public comment.

   (iv) Send a copy of the notice of public comment to the applicant and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: local air pollution control agencies, the chief executives of the city and county where the source or modification would be located, any comprehensive regional land use planning agency, the EPA Administrator, and any State or Federal Land Manager whose lands may be significantly affected by emissions from the source or modification.

(v) Provide opportunity for a public hearing for interested persons to appear and submit written or oral comments on the air quality impact of the source or modification, the control technology required, and other appropriate considerations.

(vi) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing(s) in making a final decision on the approvability of the application. No later than 10 days after the close of the public comment period, the applicant may submit a written response to any comments submitted by the public or request an extension for this purpose. The Technical Secretary shall consider the applicant's response in making a final decision. The Technical Secretary shall make all comments available for public inspection in the same locations where the Technical Secretary made available preconstruction information relating to the proposed source or modification.

(vii) Make a final determination whether construction should be approved, approved with conditions, or disapproved pursuant to this paragraph.

(viii) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the Technical Secretary made available preconstruction information and public comments relating to the source or modification.

(ix) All public comments and written comments prepared by the Technical Secretary will be maintained in the public depositories for one year from the date of issuance of the final determination.

(o) Violations of Air Quality Increments

The Technical Secretary shall not issue a construction permit to a source or facility to construct in an area where the increment is known to be violated or the air quality review predicts a violation of the increment or the ambient air quality standards except in accordance with the following:

1. All new or modified facilities shall utilize good engineering practice as determined by the Technical Secretary in designing stacks. In no event shall that part of a stack which exceeds good engineering practice stack height be taken into account for the purpose of determining the degree of emission limitation required for the control of any pollutant for which there is an ambient air quality standard established in Chapter 1200-3-3, Table 1.

2. Sources and modifications with allowable emissions increases of less than 50 tons per year, 1000 pounds per day or 100 pounds per hour, whichever is most restrictive, shall utilize Best Available Control Technology (BACT).

3. A major source or modification which would normally be required to meet BACT shall be required to meet the Lowest Achievable Emission Rate (LAER) for that type of source as determined by the Technical Secretary at the time of the permit application. The term "lowest achievable emission rate" means for any source, that rate of emissions which reflects

   (i) the most stringent emission limitation which is achieved in practice by such class or category of source.

   (ii) In no event shall a new or modified source emit any pollutant in excess of the amount allowable under the applicable rules of Chapter 1200-3-16.

4. If necessary, the source shall obtain emission offsets sufficient to predict that the increment or air quality standard will no longer be violated. The offsets shall be accomplished on or before the time of the new source operation and demonstrated through a source test or through another method acceptable to the Technical Secretary.

5. This rule does not exempt the source from meeting the requirements of rule 1200-3-9-.01-(5).

(p) Class I Area Impact - In addition to the other requirements of this paragraph, the following requirements shall apply to any major stationary source or major modification proposed which would significantly affect a Class I area:

1. Upon receipt of an acceptable construction permit application which would significantly affect a Class I area, the following actions shall be taken:

   (i) Permit application to construct a major source or major modification which would comply with the Class I increment requirement established under Chapter 1200-3-9-.01, subparagraph (4) (f).

      (I) Promptly, after receipt of the permit application, the Technical Secretary shall notify the EPA Administrator, the Federal Land Manager, and the Federal official directly responsible for the management of any lands which would be impacted by the proposed source.

      (II) Promptly after making a preliminary decision on the permit application, the Technical Secretary shall send a copy of the decision to the EPA Administrator and the Federal Land Manager.

(III) The Technical Secretary will make available to the Federal Land Manager and the EPA Administrator all materials used in making the preliminary decision.

(IV) Upon receipt of the recommendation of the Federal Land Manager, the Technical Secretary shall proceed with processing the permit application in the following manner:

I. Federal Land Manager recommends that the permit be issued. The Technical Secretary shall either issue or deny the permit.

II. Federal Land Manager recommends the permit not be issued. The Technical Secretary shall take one of the following actions:

A. Deny permit.

B. Recommend permit be issued - the permit application is then submitted through the EPA Administrator to the President for review and final decision. The President shall either deny or issue the permit.

(ii) Permit application to construct a major source or major modification which would not comply with the Class I increment requirements established by Chapter 1200-3-9-.01, subparagraph (f).

(I) Promptly, after receipt of the permit application, the Technical Secretary shall notify the EPA Administrator, the Federal Land Manager, and the Federal official directly responsible for management, of any lands which would be impacted by the proposed source.

(II) Promptly after making a preliminary decision on the permit application, the Technical Secretary shall send a copy of the decision to the EPA Administrator and the Federal Land Manager.

(III) The Technical Secretary will make available to the Federal Land Manager and the EPA Administrator all materials used in making the preliminary decision.

(IV) Upon receipt of the recommendation of the Federal Land Manager, the Technical Secretary shall proceed with processing the permit application in the following manner:

I. Federal Land Manager recommends that the permit be issued. The Technical Secretary shall either issue or deny the permit.

If the permit is issued subject to Chapter 1200-3-9-.01, sub-item (4) (p) 1. (ii) (IV) I., the particulate and sulfur dioxide maximum allowable increases over baseline concentrations shall be as follows:

Maximum Allowable Increase (Micrograms per cubic meter)	
Particulate matter	
Annual geometric mean	19
24-hour maximum	37
Sulfur dioxide:	
Annual arithmetic mean	20
24-hr. maximum	91
3-hr. maximum	325

II. Federal Land Manager recommends that the permit not be issued. The Technical Secretary shall take one of the following actions:

A. Deny permit.

B. Recommend to the Governor that the permit be issued. The Governor shall direct the Technical Secretary to take one of the following actions:

(A) Deny permit.

(B) Recommend to the President, through the EPA Administrator, that the permit be issued. The President shall either deny or issue the permit. If the permit is issued, the following limits on particulate and sulfur dioxide shall apply:

	Maximum allowable increase (micrograms per cubic meter)
Particulate matter	
Annual geometric mean	19
24-hr maximum	37

Sulfur dioxide: The source or modification shall comply with such emission limitations as may be necessary to assure that emissions of sulfur dioxide would not (during any day on which the otherwise applicable maximum allowable increases are exceeded) cause or contribute to concentrations which would exceed the following maximum allowable increases over the baseline concentration and to assure that such emissions would not cause or contribute to concentrations which exceed the otherwise applicable maximum allowable increases for periods of more than 18 days, not necessarily consecutive, during any annual period.

Maximum Allowable Increase

(Micrograms per cubic meter)

Period of Exposure	Terrain Areas	
	Low	High
24-hr maximum	36	62
3-hr maximum	130	221

(5) The Technical Secretary shall not grant a permit or waiver for the construction or modification of any air contaminant source if such construction or modification will interfere with the attainment or maintenance of an air quality standard or will violate any provision of the Tennessee Air Quality Act. The Technical Secretary may grant a construction permit in nonattainment areas provided the following conditions are met:

a. The proposed new or modified source meets all applicable emission limitations.

b. An air quality analysis shows that major new or modified sources will not significantly affect the attainment and maintenance of any air quality standards.

c. An air quality analysis suggests that the proposed source will significantly affect attainment or maintenance of the standards and an alternative site is not available or desirable, all of the following criteria must be met in order to allow construction of a new or modified major source to be permitted:

1. The source must meet the lowest achievable emission rate for that type of source as determined by the Technical Secretary at the time of permit issuance. The term "lowest" achievable emission rate" means for any source, that rate of emissions which reflects

"(i) the most stringent emission limitation which is contained in the implementation plan of any State for such class or category of source, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable, or

"(ii) The most stringent emission limitation which is achieved in practice by such class or category of source, whichever is more stringent."

In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable rules of Chapter 1200-3-16.

2. All other sources in the nonattainment area owned or controlled by the source must be in compliance with applicable emission limitations or be on an approved compliance schedule.

3. A larger than one-to-one offset of emissions of the nonattainment pollutant based on allowable emissions in the other rules in this division must be employed such that there is a net improvement in air quality for the pollutant in the area under the influence of emissions from the new or modified major sources. Where a source is not subject to an allowable emission rate in other rules of this division, then actual emissions will be used to determine the offset. The offsets must be incorporated in a board order.

d. Public hearings will be held on all proposed sources that are dependent on a state implementation plan revision and/or changes in emission standards.

a. For the purpose of this rule a major source or modification shall as a minimum cover a structure, building, facility or installation or operation for which the continuous operating allowable emission rate as determined under the requirements of other rules in this Division is or is increased by an amount equal to or greater than any of the following:

	tons per year
Particulate matter	100
Sulfur dioxide	100
Nitrogen oxides	100
Carbon monoxide	1000
Non-methane hydrocarbons (Organics)	100

b. Where a source is constructed or modified in increments, all such increments shall be cumulative for determining applicability.

c. Where a source is not subject to an allowable emission rate in other rules of this division, then actual emissions will be used.

(11) Regardless of the specific emission standards contained in this rule, all sources identified in rule 1200-3-9-.01-(4) of these regulations shall comply with the standards set pursuant to rule 1200-3-9-.01-(4) if more stringent.

(7) The applicant for a construction permit (or its equivalent by Board order) shall pay the cost of publication of any notices required by state or federal law or regulations to effectuate the rights applied for.

SECTION 2 -- OPERATING PERMIT

A. Any person planning to operate a facility constructed or modified in accordance with a Construction Permit issued by the Technical Secretary, in Section 1, shall apply for and receive an Operating Permit from the Technical Secretary within sixty (60) days after commencement of the operation of said facility.

B. Any person operating a facility discharging air contaminants constructed on or before August 9, 1969, shall obtain an Operating Permit by August 9, 1973.

1. When the emission from an air contaminant source in existance on or before August 9, 1969 excees maximum allowable emissions as defined in Chapter VI and VII in these regulations, the owner or operator thereof shall, in addition to the information required in Chapter IX, Section 2(B) (2) below, have filed by February 9, 1971, a plan for the reduction of such emission to the extent that the emission does not exceed the maximum allowable emission. Such plan shall have included a time schedule for the accomplishment of such reductions and the final date for completion shall be not later than August 9, 1973. Provided also, that the owner or operator at yearly intervals following submission of the above required plan shall file with the Technical Secretary a progress report showing what action has been taken toward accomplishment of the proposed plant.

2. As a minimum the following information shall be included for each source: total weight of contaminant released per day; period or periods of operation; composition of the contaminant; physical state of the contaminant; temperature and moisture content of the air or gas stream in which the contaminant is contained; characterization of the variability of contaminant release with respect to rate, composition and physical characteristics; height, velocity and direction of air or gas stream at the point where released to the atmosphere and such other information as may be specifically requested by the Technical Secretary. All such information shall be submitted on forms available from the Technical Secretary. Where an air or gas cleaning device is incorporated in the air or gas stream preceding discharge to the atmosphere, the weight of material removed by the cleaning device, as well as the weight emitted, shall be stated.

C. Any person owning or operating a facility discharging air contaminants constructed after August 9, 1969 and prior to the effective date of these regulations, shall be required to have applied for and received a valid Operating Permit from the Technical Secretary within six (6) months after the effective date of these regulations.

D. When the gaseous emissions from an air contaminant source regulated herein in existence on or before the effective date of these regulations exceeds the maximum allowable for such emissions as defined in these regulations, the owner or operator therof shall, in addition to any other information required by the Technical Secretary and before an Operating Permit for such existing source will be issued by the Technical Secretary, file a plan for the reduction of such emissions to the extent that they do not exceed the maximum allowable for such emissions. Such plan shall include a time schedule for the accomplishment of such reductions and the final date for completion shall be not later than the date required for achieving a reduction to the maximum gaseous emission level. Provided also, that the owner or operator at semi-annual intervals following submission of the above required plan shall file with the Technical Secretary a progress report showing what action has been taken toward accomplishment of the proposed plan.

E. Application for an Operating Permit shall be made on forms available from the Technical Secretary and signed by the applicant. Such application for an operating permit shall be filed with the Technical Secretary not less than thirty (30) days prior to the expiration on an existing Operating Permit.

F. The Operating Permit shall only be issued on evidence satisfactory to the Technical Secretary that the operation of said facility is in compliance with any standards or rules or regulations promulgated by the Board. Such evidence may include a requirement that the applicant conduct such tests as are necessary in the opinion of the Technical Secretary to determine the kind or amount of air contaminants emitted from the equipment or control apparatus. Standard Operating Permits shall be valid for a period of one (1) year or for such longer period of time as the Technical Secretary may designate. A permit issued for a period of less than one (1) year shall be designated as a temporary permit.

G. Any person in possession of an Operating Permit shall maintain said Operating Permit readily available for inspection by the Technical Secretary or his designated representative on the operating premises.

H. Operation of each facility shall be in accordance with the provisions and stipulations set forth in the Operating Permit.

I. An Operating Permit is not transferable from one person to another person nor from one facility to another facility.

J. The Technical Secretary may suspend or revoke either a construction or an operating permit if the permit holder fails to comply with the provisions, stipulations, or compliance schedules specified in the permit. Upon permit revocation, if the permit holder fails to take remedial action, he shall become immediately subject to enforcement actions prescribed in these regulations.

SECTION 3

Irrespective of the provisions of the preceding paragraphs of this Chapter, the owner or operator of any air contaminant source shall be responsible for complying with emission regulations as contained in Chapter V, VI, VII and VIII of these regulations at the earliest practicable time and for this purpose the Board shall have the authority and responsibility to require compliance with these regulations at an earlier date than indicated where such earlier compliance may reasonably be accomplished.

No person shall use any plan, activity, device or contrivance which the Technical Secretary determines will, without resulting in an actual reduction of air contaminants, conceal or appear to minimize the effects of an emission which would otherwise constitute a violation of these Regulations. Air introduced for dilution purposes only is considered a circumvention of these regulations.

No person shall discharge from any source whatsoever such quantities of air contaminants, uncombined water, or other materials which cause or have a tendency to cause a traffic hazard or an interference with normal means of public transportation.

Any person affected by any of these regulations shall file emissions data, as a minimum once a year, with the Technical Secretary on forms available from the Secretary.

SECTION 4 -- EXEMPTIONS

A. No person shall be required to obtain or file a request for a State permit due to ownership or operation of the following air contaminant sources unless specifically required to do so by the Board:

1. Mobile sources such as: automobiles, trucks, buses, locomotives, planes, boats and ships.

2. Fuel-burning equipment of less than 500,000 BTU per hour capacity.

3. Particulate emissions from a single stack, of an air contaminant source, discharging less than 0.5 pound per hour of non-hazardous particulates or the total particulate emissions from an air contaminant source amounting to less than two (2) pounds per hour of non-hazardous particulates, whichever is the more restrictive.

4. Equipment used on farms for soil preparation, tending or harvesting of crops or for preparation of feed to be used on the farm where prepared.

5. Operations exempted under Chapter IV (Open Burning) of these regulations.

6. Sources within the counties of Shelby, Davidson, Hamilton, and Knox until such time as the Board shall determine that air pollution is not being controlled in such county to a degree consistent with the substantive provisions of the Tennessee Air Pollution Control Act and regulations adopted pursuant thereto.

B. Notwithstanding the exemptions granted in Section 4A above, no person shall discharge, from any source whatsoever, such quantities of air contaminants or other materials which cause or have a tendency to cause injury, detriment, annoyance, or adverse effect to the public.

SECTION 5

A. All air contaminant sources not in compliance with those regulations with a final compliance date of July 1, 1975, are required to take the following actions no later than the dates specified. These dates shall not apply to those sources that have obtained or that do obtain a valid, legally enforceable compliance schedule or schedules for July 1, 1975, which are approved by the Tennessee Air Pollution Control Board.

1. Engineering - October 1, 1973 Submit to the Technical Secretary the final control plan for complying with the applicable regulations.

2. Procurement - February 1, 1974 Negotiate and sign all necessary contracts for emission control systems or process modifications; or issue orders for the purchase of component parts to accomplish emission control or process modification.

3. Fabrication - August 1, 1974 Initiate on-site construction of emission control equipment or process modification.

4. Installation - May 1, 1975 Complete on-site construction or installation of emission control equipment or process modification.

5. Adjustment - July 1, 1975 Conduct performance tests and/or certify to the Technical Secretary compliance with applicable regulations.

6. Ten (10) days prior to conducting the performance test, give notice of such test to the Technical Secretary to afford him opportunity to have an observer present.

7. Ten (10) days after the deadline for completing each step (1 - 5), certify to the Technical Secretary whether the increment of progress has been met.

B. Those regulations requiring final compliance by July 1, 1975, include, but are not necessarily limited to, Chapter VI, Section 2-A-2 (Particulate Matter from Non-Process Emission Sources), Chapter VI, Section 2-C (Incinerators), Chapter VII, Section 9-C (Nitric Acid Plants), Chapter VII, Section 9-D (Cotton Gins), Chapter VII, Section 9-G (Asphalt Plants).

This compliance schedule is not applicable to Chapter VI, Section 4-B-1 b (Sulfur Oxides from Non-Process Emission Sources) and Chapter VII, Section 8-B-1 (Process Emission Sources).

CHAPTER 1200-3-10

REQUIRED SAMPLING, RECORDING AND REPORTING

SECTION 1 -- SAMPLING REQUIRED TO ESTABLISH AIR CONTAMINANT EMISSION LEVELS

A. NEW FACILITIES

1. There shall be provided for any stack or duct adequate sampling facilities as follows:
    a. Sampling ports of a size, number and location as the Technical Secretary may require.
    b. Safe access to each port.
    c. Such other sampling and testing facilities as the Technical Secretary may require.
2. The Technical Secretary may at his discretion require the applicant for an Operating Permit to conduct or have conducted such tests as are necessary to establish the amount of air contaminants emitted from such equipment or control apparatus. Such tests shall be made at the expense of the applicant and shall be conducted in a manner provided by the Technical Secretary. The Technical Secretary may require that such tests be conducted in the presence of his representative.

B. EXISTING FACILITIES

1. Whenever the Technical Secretary has reason to believe that the emission limits of the regulations set forth herein are being violated, he may require the owner to conduct or have conducted at the owner's expense, tests to determine the emission level of specific air contaminants. The Technical Secretary may require that such tests be conducted in the presence of his representative.
2. The Technical Secretary may conduct tests of air contaminant emissions from any source. Upon request of the Technical Secretary the person responsible for the source to be tested shall provide, at no expense to the Technical Secretary, reasonable and necessary openings in stacks, vents and ducts, along with safe and easy access thereto including a suitable power source to the point of testing for proper determination of the level of air contaminant emissions.

C. PERIODIC TESTING REQUIRED

The Technical Secretary may require the owner or operator of an air contaminant source, as a condition of his Operating Permit, to conduct or have conducted periodic tests to establish the amount of air contaminants emitted. The nature, extent and frequency of such required testing shall be specified in the Operating Permit. Such tests shall be made at the expense of the owner or operator and shall be conducted in a manner approved by the Technical Secretary. The Technical Secretary shall be supplied with such data as stipulated in the Operating Permit.

SECTION 2 -- MONITORING OF SOURCE EMISSIONS, RECORDING AND REPORTING OF THE SAME ARE REQUIRED.

A. MONITORING OF EMISSIONS

The Technical Secretary may require the owner or operator of any air contaminant source discharging air contaminants, at the expense of the owner or operator, to install, use and maintain such monitoring equipment as the Technical Secretary shall prescribe; sample such emissions in accordance with methods as the Technical Secretary shall prescribe; establish and maintain records; and make periodic emission reports as required in subsection B.

Each owner or operator of any air contamination source directed by the Technical Secretary to monitor and report on specified air contaminants shall develop and submit a detailed monitoring program; and order and install sampling equipment within the following time schedule:

1. Within 60 days after designation by the Technical Secretary of those air contaminants to be monitored, the owner or operator of the air contaminant source shall submit a detailed monitoring program for approval by the Technical Secretary.
2. Within 30 days after the monitoring program has been approved in writing by the Technical Secretary, sampling and monitoring equipment shall be ordered.
3. Within 90 days after delivery of the equipment the owner or operator of the air contaminant source shall place said equipment in effective operation in accordance with its approved monitoring program.

B. RECORDING AND REPORTING

Records and reports as the Technical Secretary shall prescribe on air contaminant emissions, ambient air concentrations or fuel analyses shall be recorded, compiled and submitted in a format prescribed by the Technical Secretary.

SECTION 3 -- MALFUNCTION OF EQUIPMENT, REPORTS REQUIRED

A. In the case of shutdown of air pollution control equipment for necessary scheduled maintenance, the intent to shut down such equipment shall, except as provided in Section 3(B) of this Chapter, be reported to the Technical Secretary at least twenty-four (24) hours prior to the planned shutdown. Such prior notice shall include, but is not limited to the following:

1. Identification of the specific facility to be taken out of service as well as its location and permit number.

2. The expected length of time that the air pollution control equipment will be out of service.

3. The nature and quantity of emissions of air contaminants likely to occur during the shutdown period.

4. Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period.

B. EXCEPTIONS TO SHUTDOWN REPORTING REQUIREMENTS

1. The report described in Section 3(A) of this Chapter are on a routine schedule, the report of the Technical Secretary may be furnished on an annual basis and shall list the dates and times of the routine scheduled shutdowns during the following year.

2. When shutdowns referred to in Section 3(A) of this Chapter are on a routine schedule, the report of the Technical Secretary may be furnished on an annual basis and shall list the dates and time of the routine scheduled shutdowns during the following year.

C. When any emission source, air pollution control equipment, or related facility breaks down in such a manner as to cause the emission of air contaminants for an anticipated or actual duration of at least twenty-four (24) hours in violation of these regulations, the person responsible for such equipment shall immediately notify the Technical Secretary of such failure or breakdown and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Technical Secretary shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation.

CHAPTER 1200-3-11

HAZARDOUS AIR CONTAMINANTS

SECTION 1 -- HAZARDOUS AIR CONTAMINANTS

Hazardous air contaminants are any air contaminants which may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness, and has been so designated by the Technical Secretary. Asbestos, beryllium and mercury are hereby designated hazardous air contaminants. The Technical Secretary may from time to time, without public hearing, designate additional hazardous air contaminants as designated by the Environmental Protection Agency and published in the Federal Register.

SECTION 2 -- INFORMATION REQUIRED CONCERNING HAZARDOUS AIR CONTAMINANTS

A. The owner or operator of one or more sources of hazardous air contaminants in existence on the effective date of this regulation shall, within four (4) months after official notification by the Technical Secretary, file with the Technical Secretary information necessary to allow the evaluation of the air pollution potential of such emissions.

As a minimum, the following information shall be included for each source from which hazardous air contaminants are emitted: identification of hazardous air contaminant; source of hazardous air contaminant; concentration of hazardous air contaminant; total weight of hazardous air contaminant released per day; period or periods of operation; composition of the hazardous air contaminant; physical state of the hazardous air contaminant; temperature and moisture content of the air or gas stream in which the hazardous air contaminant is contained; characterization of the variability of hazardous air contaminant release with respect to rate, composition and physical characteristics; height, velocity and direction of air or gas stream at the point where released to the atmosphere and such other information as may be specifically requested by the Technical Secretary. All such information shall be submitted on forms available from the Technical Secretary.

The owner or operator of a source constructed after the effective date of this regulation shall file with the Technical Secretary not less than 90 days prior to the estimated starting date of construction sufficient information to allow evaluation of the air pollution potential of such hazardous air contaminants.

SECTION 3 -- OPERATION OF SOURCE EMITTING HAZARDOUS AIR CONTAMINANTS

Persons responsible for an air contaminant source emitting designated hazardous air contaminants shall give utmost care and consideration to the potential harmful effects of emissions resulting from such activities. Evaluation of these facilities as to the adequacy, efficiency and emission potential will be made on an individual basis by the Technical Secretary or his designated representative. Such evaluation may require the owner or operator of a source emitting hazardous air contaminants to perform such tests as are necessary in the opinion of the Technical Secretary.

CHAPTER 1200-3-12

METHODS OF SAMPLING AND ANALYSIS

SECTION 1 -- GENERAL

It is explicitly implied that in addition to and consistent with specific methods of sampling and analysis described herein, that samples will be taken in such number, duration and location as to be statistically significant and representative of the condition which the sample (s) purport to evaluate.

Where specific materials, equipment or procedures are specified, it shall be permissible to use other materials, equipment or procedures where it has been reliably demonstrated that their use produces results comparable to that which would have been obtained by use of the specified materials, equipment or procedures.

SECTION 2 -- AMBIENT AIR SAMPLING AND ANALYSIS

A. PROCEDURE FOR EVALUATION OR SULFUR DIOXIDE

Sulfur dioxide shall be determined by the "Pararosaniline Method". Sulfur dioxide is absorbed from air in a solution of potassium tetrachloromecurate. A dichlorosulfitomercurate complex, which resists oxidation by the oxygen in the air is formed. The complex is reacted with pararosaniline and formaldehyde to form intensely colored pararosaniline methyl sulfonic acid. The absorbance of the solution is measured spectrophotometrically.

ACCEPTABLE EQUIVALENT METHODS ARE:

1. Gas Chromatographic Separation - Flame Photometric detection (Provided Teflon is used throughout the instrument system in parts exposed to the air stream).
2. Flame photometric detection (provided interfering compounds in significant quantities are removed).
3. Coulometric detection (provided oxidizing and reducing interferences such as O_3, NO_2, and H_2S are removed).
4. Automated Pararosaniline Procedure
5. Other methods provided specifications of Table 1 are met. The pararosaniline method, the referee method, is described in the Federal Register, Volume 36, Number 84, Friday, April 30, 1971, in Appendix A.

B. PROCEDURE FOR MEASURING SOILING INDEX

Air is drawn through Whatman No. 4 paper at an average face velocity of about 45 feet per minute. The increase in opacity density of the paper due to deposit of particulate is measured by light transmission and reported as COH unit per 1000 linear feet of air passed through the filter. By definition one COH unit is equal to 100 times the optical density. Sampling time should be selected so that for significant soiling the percent light transmission through the test spot will be between 50 and 90 percent of that through the clean paper.

The sample probe inlet should be protected to prevent entry of rain and located at least 10 feet above ground level.

C. PROCEDURE FOR MEASURING SUSPENDED PARTICULATES

The reference method for the determination of suspended particulates is the high volume method. Particulates having a size range of 0.1 to 100 microns in diameter are collected by drawing air through a weighted glass-fiber filter. The glass-fiber filter is allowed to equilibrate in a humidity controlled atmosphere and the filter is reweighed. From the weight of particulate, the sampling time and the flow-rate which is usually between 40 and 60 ft^3/min., the particulate concentration in micrograms per cubic meter may be calculated. The sampling period is usually 24 hours or for a period representative of a 24 hour period.

The reference method is given in the *Federal Register*, Volume 26, Number 84 - Friday, April 30, 1971, Appendix B.

D. PROCEDURE FOR EVALUATING ATMOSPHERIC FLUORIDES

The standard procedure for determination of atmospheric fluorides shall conform to that adopted by the American Society for Testing Materials in 1958 and bearing ASTM designation D1606-58T. Distillation and titration procedures are based on those originally described by H. H. Willard and O. B. Winter in *Industrial and Engineering Chemistry*, Analytical Edition, Volume 5, Page 7 (1933).

E. PROCEDURE FOR MEASURING NITROGEN DIOXIDE

The reference method for the determination of nitrogen dioxide in the atmosphere is the 24 hour Jacobs-Hochheiser

Sampling Method. It is described in the Federal Register, Volume 36, Number 84 - Friday, April 30, 1971.

This method uses sodium hydroxide as the absorbing reagent and sulfanilamide as the color producing agent.

The frit porosity of the bubblers used in this procedure is critical. Therefore, it is essential that the collection efficiency of each individual bubbler be determined in order that accurate results may be obtained.

F. PROCEDURE FOR DETERMINING PHOTOCHEMICAL OXIDANTS

The reference method for determining photochemical oxidants corrected for interferences due to nitrogen oxides and sulfur dioxide is by gas phase chemiluminesence. This method is described in Federal Register, Volume 36, Number 84, Friday, April 30, 1971, Appendix D.

EQUIVALENT METHODS ARE:

1. Potassium Iodide Colorimetric Detection provided correction is made for SO_2 and NO_2.
2. UV Photometric Detection of Ozone provided compensation is made for interfering substances.
3. Chemiluminesence Methods differing from that of the reference method.
4. Other methods provided the specifications in Table 1 are met.

G. PROCEDURE FOR MEASURING CARBON MONOXIDE

The reference method for the continuous measurement of carbon monoxide in the atmosphere is by non-dispersive infrared spectrophotometry. This method is described in the Federal Register, Volume 36, Number 84, Friday, April 30, 1971, Appendix C.

EQUIVALENT METHODS ARE:

1. Gas Chromatographic Separation - Catalytic Conversion - Flame Ionization Detection.
2. Other methods provided the specifications in Table 1 are met.

H. PROCEDURE FOR MEASURING HYDROCARBONS

The reference method for determining hydrocarbons corrected for methane is by chromatographic separation - catalytic conversion and flame ionization detection. This method is described in Appendix E of *Federal Register*, Volume 36, Number 84, dated April 30, 1971.

TABLE I

PERFORMANCE SPECIFICATIONS OF INSTRUMENTATION FOR USE IN AMBIENT AIR MONITORING

Specification	Air Contaminant		
	Sulfur Dioxide	Carbon Monoxide	Photochemical Oxidant (corrected NO_2 & SO_2)
Range	0-2, 620ug/m^3 (0-1ppm)	0-58mg/m^3 (0-50ppm)	0-880ug/m^3 (0-0.5ppm)
Minimum Detectable Sensitivity	26 ug/m^3 (0-0.01 ppm)	0.6 mg/m^3 (0.5ppm)	20ug/m^3 (0.01ppm)
Rise Time, 90%	5 minutes	5 minutes	5 minutes
Fall Time, 90%	5 minutes	5 minutes	5 minutes
Zero Drift	± 1% per day & ± 2% per 3 days	± 1% per day & ± 2% per 3 days	± 1% per day ± 2% per 3 days
Span Drift	± 1% per day & ± 2% per 3 days	± 1% per day & ± 2% per 3 days	± 1% per day ± 2% per 3 days
Precision	± 2%	± 4%	± 4%
Operation Period	3 days	3 days	3 days
Noise	± 0.5% (full scale)	± 0.5% (full scale)	± 0.5% (full scale)
Interference Equivalent	26 ug/m^3 (0.01ppm)	1.1 mg/m^3 (1ppm)	20 ug/m^3 (.01ppm)
Operating Temp. Fluctuation	± 5° C	± 5° C	± 5° C
Linearity	2% (full scale)	2% (full scale)	2% (full scale)

The various specifications are defined as follows:

Range: The minimum and maximum measurement limits.

Minimum detectable sensitivity: The smallest amount of input concentration which can be detected as concentration approaches zero.

Rise time 90 percent: The interval between initial response time and time to 90 percent response after a step increase in inlet concentrations.

Fall time 90 percent: The interval between initial response time and time to 90 percent response after a step decrease in the inlet concentration.

Zero drift: The change in instrument output over a stated time period of unadjusted continuous operation, when the input concentration is zero.

Span drift: The change in instrument output over a stated period of unadjusted continuous operation, when the input concentration is a stated upscale value.

Precision: The degree of agreement between repeated measurements of the same concentration (which shall be the midpoint of the stated range) expressed as the averge deviation of the single results from the mean.

Operation period: The period of time over which the instrument can be expected to operate unattended within specifications.

Noise: Spontaneous deviations from a mean output not caused by input concentration changes.

Interference equivalent: The portion of indicated concentration due to the total of the interferences commonly found in ambient air.

Operation temperature fluctuation: The ambient temperature fluctuation over which stated specifications will be met.

Linearity: The maximum deviation between an actual instrument reading and the reading predicted by a straight line drawn between upper and lower calibration points.

SECTION 3 -- SOURCE SAMPLING AND ANALYSIS

The methods set forth in this section shall be applicable for determining compliance with emission standards.

A. SAMPLE AND VELOCITY TRAVERSES

Sample and velocity traverses shall be determined by the method outlined in the Federal Register, Volume 36, Number 247, December 23, 1971, with this added condition: "If traverse readings are within plus or minus 10% of average; 1, 2 or 3 points (corrected to average) may be used in subsequent tests. One test in 3 must be a traverse."

B. STACK GAS VELOCITY DETERMINATION

Determination of Stack Gas Velocity (Type S Pitot Tube) shall be determined by the method outlined in the Federal Register, Volume 36, Number 247, December 23, 1971, except in such instances where a Type S Pitot Tube is not applicable.

C. GAS ANALYSIS

Gas analysis for carbon dioxide, excess air and dry molecular weight shall be accomplished by the method outlined in the Federal Register, Volume 36, Number 247, December 23, 1971, or another type of test procedure that is direct indicating and/or recording approved by the Technical Secretary.

D. DETERMINATION OF MOISTURE IN STACK GASES

Moisture shall be determined by the condenser method as specified in the Federal Register, Volume 36, Number 247, December 23, 1971, or other technique approved by the Technical Secretary.

E. DETERMINATION OF PARTICULATE EMISSIONS

The basic design of the sampling train is left to the individual if certain criteria are observed to assure high collection efficiency and standard analysis of the collected particulates.

1. DESCRIPTION OF SAMPLING APPARATUS

a. This apparatus shall include interchangable sampling nozzles or probes, of various diameters, a filter effective for the removal of particles exceeding 0.3 micron diameter of solid or liquid, a suitable number of impingers to reduce condensible vapors to liquid or solid particulate matter, and appropriate connecting tubing at temperatures above the aqueous dewpoint of the gases. All materials of construction shall be resistant to corrosive elements in the flue gases, e.g., SO_2, NO_x, and elevated temperatures.

b. This filter assembly shall be maintained above the aqueous dewpoint of the flue gases throughout the sampling operation. To accomplish this the filter assembly may be disposed inside the gas flue to be completely bathed by the hot gas stream; or it may be disposed outside the gas stream provided the following precautions are taken:

   (1) If the filter is disposed outside the hot gas flue, a temperature indicator, e.g., thermocouple, shall be provided at the sample filter gas exit to monitor the filter temperature above the aqueous dewpoint of the flue gases at all times. Auxiliary heating elements for tubing and filter holder shall be provided to maintain specified temperatures when required.

   (2) Deposits in the tube connecting the probe to the exterior filter shall be quantitatively removed by washing with a suitable liquid and by brushing, the weight of solids recovered therefrom being added to the weight found in the filter.

c. Provisions shall be included for cooling the gas stream to standard conditions (70° F) to reduce condensible vapors to liquid or solid particulate matter, and for cooling the condensed particles including water that may be formed by condensation of water vapor in the sample. This shall be accomplished by passage through bubblers provided with an orifice submerged in water through which the gas stream passes at a velocity of approximately 100 meters per second. The bubblers should be immersed in an ice bath to minimize evaporation. A trap of suitable shape and dimensions for the collection of overflow or overspray shall be provided downstream from the bubblers.

d. An indicating flowmeter shall be provided and preferably located in the train at a point preceding the source of suction, preceded by a trap to prevent condensed water from entering the flowmeter; and a vacuum gauge adjacent to the flow meter to indicate the absolute pressure of the gas passing through the orifice meter.

e. Operation charts comprising either graphs or tables shall be prepared and be available as a part of the apparatus, to indicate proper sampling rates as a function of gas density in the stack and at the flowmeter.

2. ANALYTICAL RESULTS

Analytical results shall be accomplished as outlined in the appendix of the Federal Register, Volume 36, Number 247, December 23, 1971 for the filter catch and washings up to the filter. Inclusion or exclusion of material collected in the impinger train as "particulate matter" and method of analysis will be determined on an individual air contaminant source basis.

3. EQUIVALENT METHODS

Those procedures demonstrated to yield equivalent results and approved by the Technical Secretary may be used for sampling and analysis of particulate matter. Stack sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.

F. MEASUREMENT OF SULFUR DIOXIDE IN STACK GASES

1. The approved procesures for measuring Sulfur Dioxide in stack gases are the Shell Development Company method and the Monsanto Company method.

REFERENCE: (1) Shell Development Company Method

Atmospheric Emission from Sulfuric Acid Manufacturing Processes, Public Health Service Publication 999-AP-13 (1965), Appendix B, page 85-87.

REFERENCE: (2) Monsanto Company Method

Atmospheric Emission from Sulfuric Acid Manufacturing Processes, Public Health Service Publication 999-AP-13, (1965) Appendix B, page 63-84.

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2. EQUIVALENT METHODS

Many new and improved methods of continuous gaseous monitoring in stacks are now in use. Any method of stack sampling approved by the Technical Secretary may be used in accordance with good professional practice. Stack sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.

G. MEASUREMENT OF SULFURIC ACID (H_2SO_4) IN STACK GASES

1. The approved procedures for measuring sulfuric acid (H_2SO_4) in stack gases are the Shell Development Company Method and the Monsanto Company Method.

REFERENCE: (1) Shell Development Company Method

Atmospheric Emission from Sulfuric Acid Manufacturing Processes, Public Health Service Publication 999-AP-13 (1965), Appendix B, pages 85-87

REFERENCE: (2) Monsanto Company Method

Atmospheric Emission from Sulfuric Acid Manufacturing Processes, Public Health Service Publication 999-AP-13 (1965), Appendix B, pages 63-84

2. Any method of stack sampling approved by the Technical Secretary may be used in accordance with good professional practice. The stack sampling method promulgated by the Environmental Protection Agency in the Federal Register, Volume 36, Number 247, December 23, 1971 is considered to be an equivalent method.

CHAPTER 1200-3-13

SEVERABILITY

The provisions of these Regulations are severable and if any part, section, subsection, clause, paragraph or phrase of these Regulations shall be adjudged to be invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not affect, impair or invalidate the remainder of these Regulations, but shall be confined in its operation to the part, section, subsection, clause, paragraph or phrase of these Regulations that shall be directly involved in the controversy in which such judgment shall have been rendered.

CHAPTER 1200-3-14

CONTROL OF SULFUR DIOXIDE EMISSIONS

SECTION 1 -- GENERAL PROVISIONS

A. For the purpose of this Chapter, each county in Tennessee will be classified by the Board into one of six categories, defined as Class I, Class II, Class III, Class IV, Class V, and Class VI.

Each class has been established with the essential limit necessary to attain and/or maintain ambient air quality standards based on measured and predicted air quality.

B. The county classifications are as follows:

Class I - Polk
Class II - Humphreys, Maury, Roane
Class III - Sullivan
Class IV - Shelby
Class V - Anderson, Davidson, Hamilton, Hawkins, Knox, Rhea
Class VI - All other counties.

SECTION 2 -- NON-PROCESS EMISSION STANDARDS

A. Fuel Burning Installation in Operation Prior to April 3, 1972.

1. The owner or operator of a fuel burning installation shall not cause, suffer, allow or permit the emissions from that source of sulfur dioxide in excess of that contained in Table 1:

TABLE 1

ALLOWABLE SO_2 EMISSIONS FOR FUEL BURNING INSTALLATIONS IN TERMS OF POUNDS PER MILLION BTU/HR HEAT INPUT (one Hour Average)

Rated Capacity	Class I	Class II	Class III	Class V	Class VI
greater than 1000×10^6 BTU/hr.	1.2	1.2	2.4	4.0	5.0
Less than 1000×10^6 BTU/hr.	1.6	5.0	2.4	4.0	5.0

2. The owner or operator of a fuel burning installation in a Class IV County shall not cause, suffer, allow or permit emissions from that source of sulfur dioxide in excess of those listed in Table 2 or the following equation:

TABLE 2

FUEL	EMISSION LIMIT (one hour average)
Coal	4.0 lbs $SO_2/10^6$ BTU
No 5 and No 6 fuel oil and solid fuels other than coal	2.7 lbs $SO_2/10^6$ BTU
All other fuels	0.5 lbs $SO_2/10^6$ BTU

$$Q_{SO_2} = \frac{4.0X + 2.7Y + 0.5Z}{X+Y+Z}$$

Q_{SO_2} = Allowable Sulfur Dioxide Emissions in lbs $SO_2/10^6$ BTU

X = Heat input from coal

Y = Heat input from #5 or #6 fuel oil and solid fuels other than coal

Z = Heat input from all other fuel

3. In addition to the requirements of subparagraphs 1 and 2, every owner or operator of a fuel burning installation having a total rated capacity greater than 1000 million BTU per hour shall:

   a. Demonstrate, to the satisfaction of the Technical Secretary, that the sulfur dioxide emitted, either alone or in contribution to other sources, will not interfere with attainment and maintenance of any primary or secondary ambient air quality standard.

   b. Install and maintain air quality sensors to monitor attainment and maintenance of ambient air quality standards in the areas influenced by the emissions from such installation. Such shall be done in a manner prescribed by the Technical Secretary. Results of such monitoring shall be provided to the Technical Secretary in a manner and form as he shall direct.

4. For purpose of this part, the total heat input (based on maximum rated capacity) from all fuel combustion units at a plant, premises or installation shall be used for determining the maximum allowable emission of sulfur dioxide that passes

through a stack or stacks. The heat valve of the fuel that is not released within the fuel burning equipment shall not be considered as part of the heat input to the fuel burning installation.

B. Fuel Burning Equipment Constructed After April 3, 1972.

1. Fuel burning equipment with a rated capacity of 250 million BTU per hour or less heat input, shall not cause, suffer, allow or permit the emission of sulfur dioxide in excess of 1.6 pounds per million BTU heat input (one hour average) in a Class I County, 2.4 pounds in a Class III County, 4.0 pounds in a Class IV and V Counties, nor in excess of 5.0 pounds per million BTU heat input (one hour average) in a Class II or VI County.

2. The owner or operator of a fuel burning equipment with a rated capacity greater than 250 million BTU per hour heat input shall not cause, suffer, allow or permit the emissions from that source of sulfur dioxide in excess of the following:

a. .80 lbs per million BTU heat input, maximum 1 hour average, when solid fossil fuel is burned.

b. 1.2 lbs per million BTU heat input, maximum 1 hour average, when solid fossil fuel is burned.

c. Where different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration. Compliance shall be determined by using the following formula:

$$\frac{Y\ (0.80) + Z\ (1.2)}{Y + Z}$$

Where:

Y is the percent of total heat input derived from liquid fossil fuel and,

Z is the percent of total heat input derived from solid fossil fuel.

C. If an owner or operator of fuel burning equipment, is ordered by the U.S. Department of Energy under the Energy Supply and Environmental Coordination Act of 1974, or any amendments thereto, or any subsequent enactment which supersedes such provisions, to switch fuels, required alterations to existing fuel burning equipment to accommodate these additional fuels shall not be deemed a modification for purposes of determining the allowable emissions as established by this rule.

I. For the purpose of determining the applicable sulfur dioxide emission standards in this rule, a change in fuel from natural gas, propane, butane and/or fuel oil to any of these herein named fuels and any required alterations to existing fuel burning equipment to accommodate these fuels shall not be considered a modification.

SECTION 3 -- PROCESS EMISSION STANDARDS

A. On or after July 1, 1975, the owner or operator of an air contaminant source located in a Class I county shall not cause, suffer, allow or permit the emission from that source of sulfur oxides (calculated as sulfur dioxide) in excess of 500 parts per million, 0.05 percent by volume, dry basis (one hour average).

B. On or after July 1, 1975, the owner or operator of an air contaminant source located in a Class II and Class III county shall not cause, suffer, allow or permit the emission from that source of sulfur dioxide in excess of 1000 parts per million, 0.10 percent by volume, dry basis (one hour average).

C. On and after July 1, 1975, the owner or operator of an air contaminant source located in a Class IV, V or VI county shall not cause, suffer, allow or permit the emission from that source of sulfur dioxide in excess of 2,000 parts per million, 0.20 percent by volume, dry basis (one hour average).

D. A process source in a Class IV county as an alternative to the standard in paragraph (C) above, may request from the Technical Secretary of the Tennessee Air Pollution Control Board to be regulated by not being allowed to exceed their sulfur dioxide emission capacity in 1974, on a twenty-four hour and an annual basis. These emissions will be specified in a Board Order, as a permit condition or other legally enforceable manner. The Technical Secretary may approve such a request after being given adequate proof that this alternate standard will not cause any air quality standards to be violated and the company has an adequate continuous air monitoring network for determining the impact of its emissions.

E. No person shall cause, suffer, allow or permit the emissions from any new air contaminant source in excess of those limits specified in Chapter XIV, Section 3, paragraph (A), (B) or (C), whichever is applicable. Regardless of the specific emission standard, new sources shall utilize the best available control technology as deemed appropriate by the Technical Secretary of the Tennessee Air Pollution Control Board.

F. In addition to the requirements of Rule 3, paragraph (A), (B), and (C), above, every owner or opreator of an existing process emission source emitting more than 1000 tons of SO_2 during the calendar year 1972 or any other calendar year thereafter shall:

1. Demonstrate, to the satisfaction of the Technical Secretary, that the sulfur oxides emitted, either alone or in contribution to other sources, will not interfere with attainment and maintenance of any primary or secondary ambient air quality standard.

2. Install and maintain air quality sensors to monitor attainment and maintenance of ambient air quality standards in the areas influenced by the emissions from such installation. Such shall be done in a manner prescribed by the Technical Secretary. Results of such monitoring shall be provided to the Technical Secretary in a manner and form as he may direct.

G. All calculations performed pursuant to demonstration required by rule 3(F), shall assume that the process emission source is operating at the maximum rated capacity.

H. For purposes of this Chapter, thermal oxidizers and incinerators shall be construed as process emission sources.

CHAPTER 1200-3-17

ADMINISTRATIVE PROCEDURES

SECTION 23 - CONFLICT OF INTEREST

A Board member must excuse himself (herself) from voting on any permit or enforcement order in which he (she) has a conflict of interest. A conflict of interest exists if a Board member derives any significant portion of his (her) income from the person subject to the permit or enforcement order. Failure by a member to refrain from voting on such a matter will not invalidate the action taken by the Board if the member votes against his conflicting interest and/or if seven members not having a conflict sign any order, resolution, or other document requiring seven votes to be effective. No Board member may act as a hearing office in a matter in which he (she) has a conflict of interest.

CHAPTER 1200-3-18
VOLATILE ORGANIC COMPOUNDS

1200-3-18-.01 PURPOSE

It is the purpose of this Chapter to establish emission standards for new and existing sources of volatile organic compounds located within the State of Tennessee. The emission standards established within this Chapter will apply to different sources depending upon the potential emissions and the location of the source in an urban or rural county.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.02 DEFINITIONS

(1) Unless specifically defined in this Chapter, the definitions from 1200-3-2 will apply:

  (a) "Urban county" refers to the counties of Davidson, Hamilton, and Shelby.

  (b) "Rural county" refers to any county not previously classified as an urban county.

  (c) "Approved" means approved by the Technical Secretary, Tennessee Air Pollution Control Board.

  (d) "Capture system" means the equipment (including hoods, ducts, fans, etc.) used to contain, capture, or transport a pollutant to a control device.

  (e) "Coating applicator" means an apparatus used to apply a surface coating.

  (f) "Coating line" means one or more apparatus or operations which include a coating applicator, flash-off area, and oven wherein a surface coating is applied, dried, and/or cured.

  (g) "Commenced" means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractural obligation to undertake and complete, within a reasonable time a continuous program of construction or modification.

  (h) "Construction" means commencement of on site fabrication, erection, or installation of a new or modified source or facility.

  (i) "Control device" means any method, process or equipment which removes or reduces VOC emissions to the ambient air.

  (j) "Continuous vapor control system" means a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.

  (k) "Day" means a 24-hour period beginning at midnight.

(l) "Emission" means the release or discharge, whether directly or indirectly, of VOC's into the ambient air from any source.

(m) "Existing source" is any process(es) in existence or having a state or local agency's construction permit prior to the effective date of this Chapter.

(n) "Facility" means any building, structure, installation, activity, or combination thereof which contains one or more stationary source of air contaminants.

(o) "Flashoff area" means the space between the application area and the oven.

(p) "Incinerator" means a combustion apparatus designed for high temperature operation in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned efficiently and from which the solid and gaseous residues contain little or no combustible material.

(q) "Intermittent vapor control system" means a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles.

(r) "Knife coating" means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.

(s) "Loading rack" means an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space.

(t) "New source" is all other process(es) not defined in definition (m) as an existing source.

(u) "Organic material" means a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

(v) "Oven" means a chamber within which heat is used to bake, cure, polymerize, and/or dry a surface coating.

(w) "Owner or operator" means any person who owns, leases, controls, operates or supervises a facility, existing source, new source, or control device.

(x) "Petroleum liquid" means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.

(y) "Prime coat" means the first film of coating applied in a multi-coat operation.

(z) "Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile petroleum liquids except liquified petroleum gases as determined by American Society for Testing and Materials, Part 17, 1973, D-323-72 (Reapproved 1977).

(aa) "Roll coating" means the application of a coating material to a substrate by means of hard rubber or steel rolls.

(bb) "Rotogravure coating" means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is picked up in these recessed areas and is transfereed to the substance.

(cc) "Solvent" means organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents.

(dd) "Standard conditions" means a temperature of 20°C (68°F) and pressure of 760 millimeters of mercury (29.92 inches of mercury).

(ee) "Topcoat" means the final film of coating applied in a multiple coat operation.

(ff) "True vapor pressure" means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss from Floating Roof Tanks," 1962.

(gg) "Vapor collection system" means a vapor transport system which uses direct displacement by the liquid loaded to force vapors from the tank into a vapor control system.

(hh) "Vapor control system" means a system approved by the Technical Secretary that prevents release to the atmosphere of organic compounds in the vapors displaced from a tank during the transfer of gasoline.

(ii) "Volatile organic compound" (also denoted as VOC) means any compound of carbon that has a vapor pressure greater than 0.1 millimeters of mercury at standard conditions excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. The following compounds will not be considered volatile organic compounds: methane, ethane, 1,1,1-trichloroethane (methyl chloroform) and trichlorotrifluoroethane. In no case shall this definition be construed to be more restrictive that the results obtained from the use of the applicable test method for a source as specified in Rule 1200-3-18-.44, -.45, and -.46.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.03 STANDARDS FOR NEW SOURCES

(1) For the purpose of this rule, the following definitions apply:

(a) "Lowest Achievable Emission Rate (also denoted as LAER)" means for any source, that rate of emissions which reflects:

1. the most stringent emission limitation which is achieved in practice by such class or category of source.

2. In no event shall a new or modified source emit any pollutant in excess of the amount allowable under applicable rules of Chapter 1200-3-16.

This limit will be determined by the Technical Secretary at the time of the permit application.

(b) "Potential emissions" means the maximum capacity to emit a pollutant absent air pollution control equipment. "Air pollution control equipment" includes control equipment which is not, aside from air pollution control laws and regulations, vital to production of the normal product of the source or to its normal operation. Annual potential shall be based on the maximum annual rated capacity of the source, unless the source is subject to enforceable permit conditions which limit the operating rate or hours of operation, or both. Enforceable permit conditions on the type or amount of materials combusted or processed may be used in determining the potential emission rate of a source.

(2) New or modified sources identified as having potential emissions of 100 tons per year or greater shall utilize LAER irrespective of where they locate within Tennessee. All other new or modified sources locating in Davidson, Shelby or Hamilton Counties shall utilize BACT. New or modified sources having potential emissions less than 100 tons per year locating within the rest of the state shall utilize reasonable and proper controls as determined by the Technical Secretary. Regardless of the specific emission standards derived from these determinations, a new and/or modified source in an urban nonattainment county must comply with the provisions of Chapter 1200-3-9-.01-(5).

(3) If new or modified sources at a facility occurring since February 16, 1979 or since the time of the last construction approval issued requiring LAER under this rule total to more than 100 tons per year potential emissions, all the new and modified sources during the period shall utilize LAER. The stage of construction and the ability of the source to install additional control equipment shall be considered in determining LAER.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.04 (Reserved)

1200-3-18-.05 AUTOMOBILE AND LIGHT DUTY TRUCK MANUFACTURING

(1) For the purpose of this rule, the following definitions apply:

(a) "Application area" means the area where the coating is applied by dipping or spraying.

(b) "Manufacturing plant" is an assembly plant which coats and assembles parts supplied by a variety of sources producing a finished vehicle ready for sale to vehicle dealers. Customizers, body shops and other repainters are not part of this definition.

(c) "Automobile" means all passenger cars or passenger car derivatives capable of seating 12 or fewer passengers.

(d) "Light-duty trucks" means any motor vehicle rated at 3864 kilograms (8500 pounds) gross weight or less which are designed primarily for purpose of transporation or are derivatives of such vehicles.

(2) No owner or operator of an automotive or light-duty truck manufacturing plant subject to this rule may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds except as provided in 1200-3-18-04, .41, or .42 in excess of;

(a) 0.145 kilograms per liter of coating (1.2 pounds per gallon), excluding water, delivered to the applicator from prime coat application, flashoff area and oven operations.

(b) 0.34 kilograms per liter of coating (2.8 pounds per gallon) excluding water, delivered to the applicator from surfacer application, flashoff area and oven operations.

(c) 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, delivered to the applicator from topcoat application, flashoff area and oven operations.

(d) 0.58 kilograms per liter of coating (4.8 pounds per gallon), excluding water, delivered to the applicator from final repair application, flashoff area and oven operations.

(3) This rule will apply to facilities having potential VOC emissions from Automobile and Light Duty Truck Manufacturing of 100 tons per year or greater in rural counties or 25 tons per year or greater in urban counties.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.06 PAPER COATING

(1) For the purpose of this rule, the following definitions apply:

(a) "Coating" means the operation where the coating formulation is distributed uniformly across the substrate.

(b) "Paper coating" means coatings put on paper and pressure sensitive tapes regardless of substrate. The main coating application devices are knives, rollers or rotogravure devices. Related web coating processes on plastic film and decorative coatings on metal foil are included in this definition. Combined operations where a single machine prints and coats or prints and laminates in line are not part of this definition.

(2) This rule will apply, in accordance with 1200-3-18-.06-(3), to roll, knife, or rotogravure coater(s) and drying oven(s) of paper coating lines.

(3) No owner or operator of a paper coating line subject to this rule may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water, delivered to the coating applicator from a paper coating line except as provided in 1200-3-18-.04, .41, or .42.

(4) This rule will apply to facilities having potential VOC emissions from Paper Coating of 100 tons per year or greater in rural counties or 25 tons per year or greater in urban counties.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.07 PETROLEUM LIQUID STORAGE

(1) For the purpose of this rule, the following definitions apply:

(a) "Condensate" means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.

(b) "Crude oil" means a naturally occuring mixture which consists of hydrocarbons and/or sulfur, nitrogen and/or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

(c) "Custody transfer" means the transfer of produced crude oil and/or condensate, after processing and/or treating in the producing operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(d) "External floating roof" means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(e) "Internal floating roof" means a cover or roof in a fixed roof tank which rests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(f) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of crude oils, or through redistillation, cracking, extraction, or reforming of unfinished petroleum derivatives.

(2) This rule will apply, to all fixed roof storage vessels with capacities greater than 40,000 gallons containing volatile petroleum liquids whose true vapor pressure is greater than 10.5 kPa (1.52 psia).

(3) This rule will not apply to volatile petroleum liquid storage vessels;

(a) equipped with floating roofs before January 1, 1979; or,

(b) having capacities less than 420,000 gallons used to store produced crude oil and condensate prior to lease custody transfer.

(4) Except as provided under paragraph (3) of this rule, no owner or operator of an effected source under paragraph (2) of this rule shall permit the use of such source except as provided in 1200-3-18-.41 unless;

(a) the source has been retrofitted with an internal floating roof equipped with a closure seal, or seals, to close the space between the roof edge and tank wall; or,

(b) the source has been retrofitted with equally effective alternative control, approved by the Technical Secretary; and,

(c) the source is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials; and,

(d) all openings, except stub drains are equipped with covers, lids, or seals such that;

1. the cover, lid, or seal is in the closed position at all times except when in actual use; and,

2. automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports; and,

3. rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting; and,

(e) routine inspections are conducted through roof hatches once per month; and,

(f) a complete inspection of cover and seal is conducted as specified by the Technical Secretary; and,

(g) records are maintained as specified by the Technical Secretary.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979. Amended September 8, 1980.

1200-3-18-.08 BULK GASOLINE PLANTS

(1) For the purpose of this rule, the following definitions apply:

(a) "Bottom filling" means the filling of a tank truck through an opening or nozzle located either flush with or near the bottom of the tank compartment or means the filling of a stationary storage tank through a shell nozzle located in conformance with "API Standard 650-Welded SteelTanks for Oil Storage," Section 3.6.3., Shell Nozzles or the equivalent as approved by the Technical Secretary.

(b) "Bulk gasoline plant" means a gasoline storage and distribution facility with an annual average daily throughput of less than 76,000 liters (20,000 gallons) which receives gasoline from bulk terminals by trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.

(c) "Gasoline" means any petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psia) or greater.

(d) "Splash filling" means the filling of a tank truck or stationary storage tank through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled.

(e) "Submerged filling" means the following for the specified sources:

1. Tank Truck - filling with a drop tube which extends within 6 inches of the bottom of the compartment.

2. Terminal or Bulk Plant Storage Tanks - filling through an outlet located in accordance with "API Standard 650 Welded Steel Tanks for Oil Storage; Section 3.6.3 Shell Nozzles" or the equivalent as approved by the Technical Secretary.

(f) "Vapor balance system" means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

(2) This rule will apply, in accordance with 1200-3-18-.41, to the unloading, loading, and storage facilities of all bulk gasoline plants and all tank trucks or trailers delivering or receiving gasoline at bulk gasoline plants.

(3) This rule will not apply to;

(a) stationary storage tanks of less than 2,000 gallons capacity; or

(b) bulk plants in rural counties; or

(c) bulk plants in urban areas with less than 4000 gallon/day annual average throughput in urban areas provided records of throughput are maintained and reported to the Technical Secretary as specified by the Technical Secretary.

(4) Except as provided under paragraph (3) of this rule, no owner or operator of a bulk gasoline plant (tank truck or trailer) shall load

gasoline into a stationary storage tank from a tank truck, trailer, or other stationary storage tank unless each tank and truck or trailer is equipped with a vapor balance system as described under paragraph (7) of this rule.

(5) Except as provided under paragraph (3) of this rule, no owner or operator of a bulk gasoline plant, tank truck, or trailer shall unload gasoline from a stationary tank into a tank truck or trailer unless a bottom filling or submerged filling system or its equivalent is installed at the bulk plant.

(6) No owner or operator of a bulk gasoline plant, tank truck, or trailer shall permit the transfer of gasoline between a tank truck or trailer and a stationary storage tank unless the equipment required in (4) and (5) is installed and properly operated to minimize the loss of VOC emissions.

(7) Vapor balance systems required under paragraph (4) of this rule shall consist of the following major components:

(a) A vapor space connection on the stationary storage tank equipped with fittings which are vapor-tight and will eliminate back flow so as to prevent release of organic material.

(b) a connecting pipe or hose equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of organic material; and,

(c) a vapor space connection on the tank truck or trailer equipped with fittings which are vapor tight and must be closed prior to disconnection so as to prevent release of organic material.

(8) No owner or operator of a bulk gasoline plant may permit gasoline to be stored in open containers or handled in any other manner that would result in evaporation.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.09 BULK GASOLINE TERMINALS

(1) For the purpose of this rule, the following definitions apply:

(a) "Bulk gasoline terminal" means a gasoline storage facility which receives gasoline from refineries primarily by pipeline, ship, or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck; and has an annual average daily throughput of more than 76,000 liters (20,000 gallons) of gasoline.

(b) "Gasoline" means a petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psia) or greater.

(2) This rule will apply, in accordance with 1200-3-18-.41 to bulk gasoline terminals and the appurtenant equipment necessary to load the tank truck or trailer compartments.

(3) No person may load gasoline into any tank trucks or trailers from any bulk gasoline terminal unless;

(a) the bulk gasoline terminal is equipped with a vapor control system, capable of complying with paragraph (4) of this rule, properly installed, in good working order, in operation and consisting of one of the following;

1. an adsorber or condensation system which processes and recovers vapors and gases from the equipment being controlled; or,

2. a vapor collection system which directs all vapors to a fuel gas system; or,

3. a control system, demonstrated to have control efficiency equivalent to or greater than parts (3) (a) 1. or (3) (a) 2. of this section and approved by the Technical Secretary; and,

(b) all displaced vapors and gases are vented only to the vapor control system; and,

(c) loading devices must not leak when in use and should be designed and operated to allow no more than 10 cc's drainage per disconnect on the basis of 5 consecutive disconnects.

(d) all loading and vapor lines are equipped with fittings which are vapor-tight.

(4) Sources effected under subparagraph (3) (a) may not allow mass emissions of volatile organic compounds from control equipment to exceed 80 milligrams per liter (4.7 grains per gallon) of gasoline loaded.

(5) Sources effected under paragraph (2) may not;

(a) allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation; nor,

(b) allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.10 GASOLINE SERVICE STATIONS STAGE I.

(1) For the purpose of this rule, the following definitions apply:

(a) "Gasoline" means a petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psia) or greater.

(b) "Delivery Vessel" means tank trucks or trailers equipped with a storage tank and used for the transport of gasoline from sources of supply to stationary storage tanks of gasoline dispensing facilities.

(c) "Submerged Fill Pipe" means any fill pipe extending within 6 inches of the tank bottom.

(d) "Gasoline Dispensing Facility" means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.

(2) This rule will apply, in accordance with 1200-3-18-.41, to all gasoline dispensing facilities except as exempted in paragraph (3).

(3) This rule will not apply to;

(a) transfers made to storage tanks of gasoline dispensing facilities equipped with floating roofs or their equivalent which have been approved by the Technical Secretary.

(b) stationary gasoline storage containers of 2,000 gallons or less.

(c) facilities in rural counties.

(d) facilities with annual gasoline throughputs of less than 260,000 gallons in 1978 and each year thereafter provided an accurate record for throughput is maintained and provided for inspection by the Technical Secretary in the manner he chooses. Only those sources which notify the Technical Secretary in writing within 45 days of the effective date of this rule are eligible for exemption under this subparagraph (d).

(4) Except as provided under paragraph (3) of this rule, no owner or operator may transfer or cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank of more than 2000 gallons capacity unless the tank is equipped with a submerged fill pipe and the vapors displaced from the storage tank during filling are processed by a vapor control system in accordance with a paragraph (5) of this rule;

(5) The vapor control system required by paragraph (4) of this rule shall include one or more of the following:

(a) a vapor-tight line from the storage tank to the delivery vessel and a system that will ensure the vapor line is connected before the gasoline can be transferred into the tank; or,

(b) a refrigeration-condensation system or equivalent approved by the Technical Secretary.

(c) a system demonstrated to have control efficiency equivalent to or greater than provided under subparagraph (5) (a) or (5) (b) of this rule and approved by the Technical Secretary.

(6) The vapor-laden delivery vessel shall be subject to the following conditions;

(a) the delivery vessel must be designed and maintained to be vapor tight at all times; and

(b) the vapor-laden delivery vessel may be refilled in the regulated area only at;

1. bulk gasoline plants complying with 1200-3-18-.08; or,

2. bulk gasoline terminals complying with 1200-3-18-.09.

Authority: T.C.A. 54-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.11 PETROLEUM REFINERY SOURCES

(1) For the purpose of this rule, the following definitions apply:

(a) "Accumulator" means the reservoir of a condensing unit receiving the condensate from the condenser.

(b) "Condenser" means any heat transfer device used to liquefy vapors by removing their latent heats of vaporization. Such devices include, but are not limited to, shell and tube, coil, surface, or contact condensers.

(c) "Firebox" means the chamber or compartment of a boiler or furnace in which materials are burned but does not mean the combustion chamber of an incinerator.

(d) "Forebays" mean the primary sections of a wastewater separator.

(e) "Hot well" means the reservoir of a condensing unit receiving the warm condensate from the condenser.

(f) "Petroleum refinery" means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation, cracking, extraction, or reforming of unfinished petroleum derivatives.

(g) "Refinery fuel gas" means any gas which is generated by a petroleum refinery process unit and which is combusted, including any gaseous mixture of natural gas and fuel gas.

(h) "Turnaround" means the procedure of shutting a refinery unit down after a run to do necessary maintenance and repair work and putting the unit back on stream.

(i) "Vacuum producing system" means any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector device that takes suction from a pressure below atmospheric and discharges against atmospheric pressure.

(j) "Vapor recovery system" means a system that prevents release to the atmosphere of no less than 90 percent by weight of organic compounds emitted during the operation of any transfer, storage, or process equipment.

(k) "Wastewater (oil/water) separator" means any device or piece of equipment which utilizes the difference in density between oil and water to remove oil and associated chemicals from water, or any device, such as a flocculation tank, clarifier, etc., which removes petroleum derived compounds from waste water.

(2) This rule will apply, in accordance with 1200-3-18-.41, to vacuum producing systems, wastewater separators, and process unit turnarounds at petroleum refineries.

(3) (a) The owner or operator of any vacuum producing systems at a petroleum refinery may not permit the emission of any noncondensable volatile organic compounds from the condensers, hot wells or accumulators of the system.

(b) The emission limit under subparagraph (3) (a) of this rule shall be achieved bv;

1. piping the noncondensable vapors to a firebox or incinerator; or,

2. compressing the vapors and adding them to the refinery fuel gas.

(4) The owner or operator of any wastewater (oil/water) separators at a petroleum refinery shall;

(a) provide covers and seals approved by the Technical Secretary, on all separators and forebays; and,

(b) equip all openings in covers, separators, and forebays with lids or seals such that the lids or seals are in the closed position at all times except when in actual use.

(5) Before July 1, 1979 the owner or operator of a petroleum refinery shall develop and submit to the Technical Secretary for approval a detailed procedure for minimization of volatile organic compound emissions during process unit turnaround. As a minimum, the procedure shall provide for;

(a) depressurization venting of the process unit or vessel to a vapor recovery sytem, flare or firebox; and,

(b) no emission of volatile organic compounds from a process unit or vessel until its internal pressure is 136 kilo Pascals (19.7 psia) or less; and,

(c) record keeping as specified by the Technical Secretary.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.12 CAN COATING

(1) For the purpose of this rule, the following definitions apply:

(a) "End sealing compound" means a synthetic rubber compound which is coated on to can ends and which functions as a gasket when the end is assembled on the can.

(b) "Exterior base coating" means a coating applied to the exterior of a can to provide exterior protection to the metal and to provide background for the lithographic or printing operation.

(c) "Interior base coating" means a coating applied by roller coating or spray to the interior to a can to provide a protective lining between the can metal and product.

(d) "Interior body spray" means a coating sprayed on the interior of the can body to provide a protective film between the product and the can.

(e) "Overvarnish" means a coating applied directly over ink to reduce the coefficient of friction, to provide gloss and to protect the finish against abrasion and corrosion.

(f) "Three-piece can side-seam spray" means a coating sprayed on the exterior and interior of a welded, cemented or soldered seam to protect the exposed metal.

(g) "Two-piece can exterior end coating" means a coating applied by roller coating or spraying to the exterior end of a can to provide protection to the metal.

(2) This rule will apply, in accordance with 1200-3-18-.12-(3) to coating applicator(s) and oven(s) of sheet, can or end coating lines involved in sheet basecoat (exterior and interior) and overvarnish; two-piece can exterior (basecoat and overvarnish); two and three-piece can interior body spray; two-piece can exterior end (spray or roll coat); three-piece can side-seam spray and end sealing compound operations.

(3) No owner or operator of a can coating line subject to this rule may cause, allow, or permit the discharge into the atmosphere of any volatile organic compounds except as provided in 1200-3-18-.41 in excess of;

(a) 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, delivered to the coating applicator from sheet basecoat (exterior and interior) and overvarnish or two-piece can exterior (basecoat and overvarnish) operations.

(b) 0.51 kilograms per liter of coating (4.2 pounds per gallon), excluding water, delivered to the coating applicator from two-and three-piece can interior body spray and two-piece can exterior end (spray or roll coat) operations.

(c) 0.66 kilograms per liter of coating (5.5 pounds per gallon), excluding water, delivered to the coating applicator from three-piece can side-seam spray operations.

(d) 0.44 kilograms per liter of coating (3.7 pounds per gallon), excluding water, delivered to the coating applicator from end sealing compound operations.

(4) This rule will apply to facilities having potential VOC emissions from can coating of 100 tons per year or greater in rural counties or 25 tons per year or greater in urban counties.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.13 COIL COATING

(1) For the purpose of this rule, the following definitions apply:

(a) "Coil coating" means the coating of any flat metal sheet or strip that comes in rolls or coils.

(b) "Quench area" means a chamber where the hot metal exiting the oven is cooled by either a spray of water or a blast of air followed by water cooling.

(2) This rule will apply, in accordance with 1200-3-18-.13-(3), to the coating applicator(s), oven(s) and quench area(s) of coil coating lines involved in prime and top coat or single coat operations.

(3) No owner or operator of a coil coating line subject to this rule may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.31 kilograms per liter of coating (2.6 pounds per gallon), excluding water, delivered to the coating applicator from prime and topcoat or single coat operations except as provided in 1200-3-18-.41.

(4) This rule will apply to facilities having potential VOC emissions from can coating of 100 tons per year or greater in rural counties or 25 tons per year or greater in urban counties.

Authority: T.C.A. 54-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.14 FABRIC AND VINYL COATING

(1) For the purpose of this rule, the following definitions apply:

(a) "Fabric coating" means the coating of a textile substrate with a knife, roll or rotogravure coater to impart properties that are not initially persent, such as strength, stability, water or acid repellancy, or appearance.

(b) "Vinyl coating" means applying a decorative or protective topcoat, or printing on vinyl coated fabric or vinyl sheets.

(2) This rule will apply, in accordance with 1200-3-18-.14-(3), to roll, knife or rotogravure coater(s) and drying oven(s) of fabric and vinyl coating lines.

(3) No owner or operator of a fabric coating line or a vinyl coating line subject to this rule may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds except as provided in 1200-3-18-.41 in excess of;

(a) 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water, delivered to the coating applicator from a fabric coating line.

(b) 0.45 kilograms per liter of coating (3.8 pounds per gallon), excluding water, delivered to the coating applicator from a vinyl coating line.

(4) This rule will apply to facilities having potential VOC emissions from fabric and vinyl coating of 100 tons per year or greater in rural counties or 25 tons per year or greater in urban counties.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.15 METAL FURNITURE COATING

(1) For the purpose of this rule, the following definitions apply:

(a) "Application area" means the area where the coating is applied by spraying, dipping or flowcoating techniques.

(b) "Metal furniture coating" means the surface coating of any furniture made of metal or any metal part which will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece.

(2) This rule will apply, in accordance with 1200-3-18-.15-(3), to the application area(s), flashoff area(s), and oven(s) of metal furniture coating lines involved in prime and topcoat or single coating operations.

(3) No owner or operator of a metal furniture coating line subject to this rule may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.36 kilograms per liter of coating (3.0 pounds per gallon), excluding water, delivered to the coating applicator from prime and topcoat or single coat operations except as provided in 1200-3-18-.41.

(4) This rule will apply to facilities having the potential VOC emissions from Metal Furniture Coating of 100 tons per year or greater in rural counties or 25 tons per year or greater in urban counties.

(5) This rule shall not apply to the use of quick drying lacquers for repair of scratches and nicks that occur during assembly.

Authority: T.C.A. 54-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.16 SURFACE COATING OF LARGE APPLIANCES

(1) For the purpose of this rule, the following definitions apply:

(a) "Application area" means the area where the coating is applied by spraying, dipping or flowcoating techniques.

(b) "Single coat" means a single film of coating applied directly to the metal substrate omitting the primer application.

(c) "Large appliances" means doors, cases, lids, panels and interior support parts of residential and commerical washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners and other similar products.

(2) This rule will not apply to the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly.

(3) This rule will apply, in accordance with 1200-3-18-.16-(3), to the area(s), flashoff area(s) and oven(s) of large appliance coating lines involved in prime, single or topcoat coating operations.

(4) No owner or operator of a large appliance coating line subject to this rule may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, delivered to the coating applicator from prime, single or topcoat coating operations except as provided in 1200-3-18-.41.

(5) This rule will apply to facilities having potential VOC emissions from Surface Coating of Large Appliances of 100 tons per year or greater in rural areas or 25 tons per year or greater in urban areas.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.17 MAGNET WIRE COATING

(1) For the purpose of this rule, the following definition applies:

(a) "Magnet wire coating" means the process of applying a coating of electrically insulating varnish or enamel to aluminum or copper wire for use in electrical machinery.

(2) No owner or operator of a magnet wire coating oven subject to this rule may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.20 kilograms per liter of coating (1.7 pounds per gallon), excluding water, delivered to the coating applicator from magnet wire coating operations except as provided in 1200-3-18-.41.

(3) This rule will apply to facilities having potential VOC emissions from Magnet Wire Coating of 100 tons per year or greater in rural areas or 25 tons per year or greater in urban areas.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.18 SOLVENT METAL CLEANING

(1) For the purpose of this rule, the following definitions apply:

(a) "Cold cleaning" means the batch process of cleaning and removing greasy soils from metal surfaces by spraying, brushing, flushing or immersion while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

(b) "Conveyorized degreasing" means the continuous process of cleaning and removing greasy soils from metal surfaces by operating with either cold or vaporized solvents.

(c) "Freeboard height" means the distance from the top of the vapor zone to the top of the degreaser tank for vapor degreasers and from the liquid surface to the top of degreaser toner for cold cleaners.

(d) "Freeboard ratio" means the freeboard height divided by the width of the degreaser.

(e) "Open top vapor degreasing" means the batch process of cleaning and removing greasy soils from metal surfaces in an open top tank by condensing hot solvent vapor on the colder metal parts.

(f) "Solvent metal cleaning" means the process of cleaning greasy soils from metal surfaces by cold cleaning or open top vapor degreasing or conveyorized degreasing.

(2) The provisions of this rule shall apply, in accordance with 1200-3-18-.41, with the following exceptions;

(a) open top vapor degreasers with an open area smaller than 1 square meter (10.8 square feet) shall be exempt from parts (5) (c) 2. and (5) (c) 4. of this rule,

(b) conveyorized degreasers with an air/vapor interface smaller than 2.0 square meters (21.6 square feet) shall be exempt from subparagraph (6) (b) of this rule,

(3) This rule will apply to facilities having potential VOC emissions from Solvent Metal Cleaning of 100 tons per year or greater in rural counties or 25 tons per year or greater in urban counties.

(4) Except as provided under paragraphs (2) and (3) of this rule, the owner or operator of a cold cleaning facility shall;

(a) equip the cleaner with a cover;

(b) equip the cleaner with a facility for draining cleaned parts; and

(c) provide a permanent, conspicuous label, summarizing the operating requirements; and,

(d) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere; and,

(e) close the cover whenever parts are not being handled in the cleaner; and,

(f) drain the cleaned parts for at least 15 seconds or until dripping ceases; and,

(g) if used, supply a solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure which does not cause excessive splashing.

(5) Except as provided under paragraph (2) of this rule, the owner or operator of an open top vapor degreaser shall;

(a) equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone; and,

(b) keep the cover closed at all times except when processing work loads through the degreaser; and

(c) minimize solvent carryout by;

1. racking parts to allow complete drainage; and,

2. moving parts in and out of the degreaser at less than 3.3 meters per minute (11 feet per minute); and,

3. holding the parts in the vapor zone at least 30 seconds or until condensation ceases; and,

4. tipping out any pools of solvent on the cleaned parts before removal from the vapor zone; and,

5. allowing parts to dry within the degreaser for at least 15 seconds or until visually dry; and,

(d) not degrease porous or absorbent materials, such as cloth, leather, wood or rope; and,

(e) not occupy more than half of the degreaser's open top area with a workload; and,

(f) not load the degreaser to the point where the vapor level would drop more than 10 centimeters (4 inches) when the workload enters the vapor zone; and,

(g) always spray below the vapor level; and,

(h) repair solvent leaks immediately, or shutdown the degreaser; and,

(i) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere; and,

(j) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator; and,

(k) not use ventilation fans near the degreaser opening, nor provide exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of degreaser open area, unless necessary to meet OSHA requirements; and,

(l) provide a permanent, conspicuous label, summarizing the operating procedures of subparagraphs (5)(b) through (5)(j) of this rule.

(6) Except as provided under paragraph (3) of this rule, the owner or operator of a conveyorized degreaser shall;

(a) not use workplace fans near the degreaser opening, nor provide exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute square foot) of degreaser opening, unless necessary to meet OSHA requirements; and,

(b) equip the cleaner with equipment, such as drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor; and,

(c) minimize openings during operation so that entrances and exits will silhouette workloads with an average clearance between the largest parts and the edge of the degreaser opening of less than 10 centimeters (4 inches) or less than 10 percent of the width of the opening; and,

(d) provide downtime covers for closing off the entrance and exit during shutdown hours; and,

(e) minimize carryout emissions by;

(i) racking parts for best drainage; and,

(ii) maintaining the verticle conveyor speed at less than 3.3 meters per minute (11 feet per minute); and,

(f) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere; and,

(g) repair solvent leaks immediately, or shut down the degreaser; and,

(h) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator; and,

(i) place downtime covers over entrances and exits of conveyorized degreasers immediately after the conveyors and exhausts are shut down and not remove them until just before start-up.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.19 CUTBACK ASPHALT

(1) For the purpose of this rule, the following definitions apply:

(a) "Asphalt" means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) in which the predominating constituents are bitumens which occur in nature as such or which are obtained as residue in refining petroleum.

(b) "Cutback Asphalt" means asphalt cement which has been liquefied by blending with petroleum solvents (diluents). Upon exposure to atmospheric conditions the diluents evaporate, leaving the asphalt cement to perform its function.

(c) "Penetrating prime coat" means an application of low viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime penetrates the base and plugs the voids, hardens the top, and helps bind it to the overlying asphalt course. It also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

(2) No person may cause, allow, or permit the use or application of cutback asphalts for paving purposes in urban counties except for:

(a) long-term stockpile storage; or,

(b) application when the ambient temperature is less than 50°F within 4 hours after the time of application; or,

(c) use as a penetrating prime coat; or,

(d) use for base stabilization.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.41 COMPLIANCE SCHEDULES

(1) Process Equipment and Control Device

(a) The owner or operator of an existing source of volatile organic compound emissions subject to the standard in this Chapter proposing to install and operate a control device and/or replacement process equipment to comply shall adhere to the increments of progress contained in the following schedule;

1. Final plans for the emission control device and/or process equipment must be submitted before November 1, 1979.

2. Contracts for the emission control systems and/or process equipment must be awarded or orders must be issued for purchase of component parts before March 1, 1980.

3. Initiation of on-site construction of control device or process equipment before October 1, 1980.

4. On-site constructon or installation of the control device or process equipment completed before October 1, 1981.

5. Final compliance, shall be determined before November 1, 1981 in accordance with the method(s) specified by the Technical Secretary.

6. Any owner or operator of an existing emission source subject to the compliance schedule of this section shall certify to the Technical Secretary within 20 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(2) Low Solvent Content Coating.

(a) The owner or operator of an existing source of volatile organic compound emissions subject to the standards in this Chapter proposing to employ low solvent content coating technology to comply shall adhere to the increments of progress contained in the following schedule;

1. Final plans for the application of low solvent content coating technology must be submitted before November 1, 1979.

2. Research and development of low solvent content coating must be completed before May 1, 1980.

3. Evaluation of product quality and commercial acceptance must be completed before November 1, 1980.

4. Purchase orders must be issued for low solvent content coatings and process modifications before January 1, 1981.

5. Initiation of process modifications must begin before March 1, 1981.

6. Process modifications must be completed and use of low solvent content coatings must begin before August 1, 1981.

7. Final compliance shall be determined before September 1, 1981 in accordance with the method(s) specified by the Technical Secretary.

8. Any owner or operator of an existing source subject to the compliance schedule of this section shall certify to the Technical Secretary within 20 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(3) Equipment Modification.

(a) The owner or operator of an existing source of volatile organic compound emissions subject to the standards in this Chapter proposing to comply by modification of existing process equipment shall adhere to the increments of progress contained in the following schedule;

1. Final plans for process modification must be submitted before November 1, 1979.

2. Contracts for process modifications must be awarded or orders must be issued for the purchase of component parts to accomplish process modifications before March 1, 1980.

3. Initiation of on-site construction or installation of process modifications must begin before October 1, 1980.

4. On-site construction or installation of process modifications must be completed before October 1, 1981.

5. Final compliance shall be determined before November 1, 1981 in accordance with the method(s) specified by the Technical Secretary.

6. Any owner or operator of an existing source subject to the compliance schedule of this section shall certify to the Technical Secretary within 30 days after the deadline for each increment of progress, whether the required increment of progress has been met.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.42 INDIVIDUAL COMPLIANCE SCHEDULES

(1) A facility may petition for a source specific compliance schedule extending beyond those categorical compliance schedules contained in 1200-3-18-.41 only if one or more of the following conditions are satisfied:

(a) The facility demonstrates that it is physically impossible for the source(s) in question to comply with the date(s) in the categorical schedule.

(b) That, by allowing additional time, innovative technology will be applied and the reductions to be achieved will be significantly greater than that from the applicable emission standard. That the facility agrees that this revised value will be contained on the permit(s) as a condition of source(s) operation.

(c) Additional time is necessary to allow for the development of low solvent systems rather than apply add-on controls.

(d) The facility in question is a part of a Statewide or multistate program to prioritize the sequence of installing controls at a number similar sources owned or controlled by the same company, and the overall compliance program is as expeditious as practicable.

(2) Individual compliance schedules approved under this section must contain the below alphebetical increments of progress and achieve final compliance with the specified emission standard no later than July 1, 1987.

(a) Date control plan will be submitted.

(b) Date contract will be awarded.

(c) Date initial construction will commence.

(d) Date construction will be completed.

(e) Date final compliance will be achieved.

(3) Individual compliance schedules approved under this section will be subjected to a public hearing and incorporated as a revision to these regulations. The facility requesting such Individual Compliance Schedule shall be responsible for all costs associated with the required legal notices.

(4) No individual compliance schedule will be granted if such a revised schedule would interfere with reasonable further progress in Davidson, Shelby or Hamilton counties.

(5) The petition for the individual compliance schedule must be received by the Technical Secretary in the Nashville office prior to the first date contained in the categorical compliance schedule.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.43 GENERAL PROVISIONS FOR TEST METHODS AND PROCEDURES

(1) The owner or operator of any new or existing source required to comply with standards contained in this Chapter shall, at his own expense, when so directed by the Technical Secretary, demonstrate compliance by the following methods or an alternative method approved by the Technical Secretary.

(2) No volatile organic compound emissions compliance testing will be allowed, nor the results accepted, unless prior notification has been supplied to the Technical Secretary as required under paragraph (3) and (4) of this rule and the Technical Secretary has granted approval.

(3) Any person proposing to conduct a volatile organic compound emissions compliance test shall notify the Technical Secretary of the intent to test not less than 30 days before the proposed initiation of the tests so the Technical Secretary may, at his option, observe the test.

(4) For compliance determination, the owner or operator of any new or existing source shall be responsible for providing;

(a) sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test procedure; and,

(b) safe access to the sample and data collection locations; and,

(c) light, electricity, and other utilities required for sample and data collection.

(5) A copy (or copies) of the test report shall be submitted to the Technical Secretary by the prescribed time period in a format stipulated by the Technical Secretary.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.44 DETERMINATION OF VOLATILE CONTENT OF SURFACE COATINGS

(1) This method applies, in accordance with 1200-3-18-.43, to paint, varnish, lacquer, and surface coatings which are air-dried or force-dried.

(2) This method does not apply to any coating system requiring a special curing process such as;

(a) exposure to temperatures in excess of 110°C (230°F) to promote thermal cross-linking; or,

(b) exposure to ultraviolet light to promote cross-linking.

(3) For the purposes of this method, the applicable surface coatings are divided into three classes. They are:

(a) Class I: General Solvent-Type Paints. This class includes white linseed oil outside paint, white soya and phthalic alkyd enamel, white linseed o-phthalic alkyd enamel, red lead primer, zinc chromate primer, flat white inside enamel, white epoxy enamel, white vinyl toluene modified alkyd, white amino modified baking enamel, and other solvent-type paints not included in Class II.

(b) Class II: Varnishes and Lacquers. This class includes clear and pigmented lacquers and varnishes.

(c) Class III: Water Thinned Paints. This class includes emulsion or latex paints and colored enamels.

(4) For the purposes of this method, a representative sample of the surface coating shall be obtained at the point of delivery to the coater or any other point in the process that the Technical Secretary approves.

(5) The volatile organic content of the sample shall be determined as follows:

(a) Assign the coating to one of the three classes in paragraph (c) of this section. Assign any coating not clearly belongs to Class II or III to Class I.

(b) Determine the density D_m (in grams/cubic centimeter) of the paint, varnish, lacquer, or related product according to the procedure outlined in ASTM D 1475-60, Standard Method of Test for Density of Paint, Varnish, Lacquer, and Related Products. Then, depending on the class of the coating, use one of the following specified procedures to determine the volatile content;

1. Class I. Use the procedure in ASTM D 2369-73, Standard Method of Test for Volatile Content of Paints.

(i) Record the following information:

W_1 = Weight of dish and sample, grams

W_2 = Weight of dish and sample after heating, grams

S = Sample weight, grams

(ii) Compute the volatile matter content C (in grams/liter of paint) as follows:

$$C_v = \frac{(w_1 - W_2)(D_m)(10^3)}{S}$$

(iii) To convert grams/liters to pounds/gallon, multiply C_v by 8.3455×10^{-3}.

2. Class II. Use the procedure in ASTM D 1644-59 Method A, Standard Methods of Test for Nonvolatile Content of Varnishes (Do not use Method B).

(i) Record the following information:

A = Weight of dish, grams

B = Weight of sample used, grams

C = Weight of dish and contents after heating, grams

(ii) Compute the volatile matter convert C_v (in grams/liter) as follows:

$$C_v = \frac{(A + B - C)(D_m)(10^3)}{B}$$

(iii) To convert grams/liter to pounds/gallon, multiply C_v by 8.3455×10^{-3}.

3. Class III. Use the procedure in ASTM D 2369-73, Standard Method of Test for Volatile Content of Paints.

(i) Record the same information as specified in paragraph (e) (2) (i) of this section.

(ii) Determine the water content in P (in percent water) of the paint according to the procedure outlined in Federal Standard 141a, Method 4082.1, Water in Paint and Varnishes (Karl Fischer Titration Method).

(iii) Compute the nonaqueous volatile matter content C_v (in grams/liter) as follows:

$$C_v = \frac{(W_1 - W_2 - 0.01\ PS)(D_m)(10^3)}{S}$$

(iv) To convert grams/liters to pounds/gallon, multiply C_v by 8.3455×10^{-3}.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.45 TEST METHOD FOR DETERMINATION OF VOLATILE ORGANIC COMPOUND EMISSION CONTROL SYSTEM EFFICIENCY

(1) The provisions of this section are generally applicable, in accordance with 1200-3-18-.43, to any test method employed to determine the collection or control efficiency of any device or system designed, installed, and operated for the purpose of reducing volatile organic compound emissions.

(2) The following procedures shall be included in any efficiency determination:

(a) The volatile organic compound containing material shall be sampled and analyzed in a manner approved by the Technical Secretary such that the quantity of emissions that could result from the use of the material can be quantified.

(b) The efficiency of any capture system used to transport the volatile organic compound emissions from their point of origination to the control equipment shall be computed using accepted engineering practice and in a manner approved by the Technical Secretary.

(c) Samples of the volatile organic compound containing gas stream shall be taken simultaneously at the inlet and outlet of the emissions control device in a manner approved by the Technical Secretary.

(d) The total combustible carbon content of the samples shall be determined by a method approved by the Technical Secretary.

(e) The efficiency of the control device shall be expressed as the fraction of total combustible carbon content reduction achieved.

(f) The volatile organic compound mass emission rate shall be the sum of emissions from the control device, emissions not collected by the capture system and capture system losses.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.46 TEST METHOD FOR DETERMINATION OF SOLVENT METAL CLEANING ORGANIC COMPOUND EMISSIONS

(1) This method is applicable to determining volatile organic compound emissions from solvent metal cleaning equipment in accordance with 1200-3-12-.43.

(2) The purpose of this method is to quantify, by material balance, the amount of solvent input into a degreaser over a sufficiently long period of time so that an average emission rate can be computed.

(3) The following procedure shall be followed to perform a material balance test:

(a) Clean the degreaser sump before testing.

(b) Record the amount of solvent added to the tank with a flow meter.

(c) Record the weight and type of work load degreased each day.

(d) At the end of the test run, pump out the used solvent and measure the amount with a flow meter. Also, estimate the volume of metal chips and other material remaining in the emptied sump, if significant.

(e) Bottle a sample of the used solvent and analyze it to find the percent that is oil and other contaminants. The oil and solvent proportions can be estimated by weighing samples of used solvent before and after boiling off the solvent. The volume of solvent displaced by this oil along with the volume of make-up solvent added during operations is equal to the solvent emission.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

1200-3-18-.47 TEST PROCEDURE FOR DETERMINATION OF VOC EMISSIONS FROM BULK GASOLINE TERMINALS

(1) This test method is applicable to determining volatile organic compound emissions from bulk gasoline terminals in accordance with 1200-3-18-.43.

(2) Principle. VOC mass emissions are determined directly using flow meters and hydrocarbon analyzers. The volume of liquid gasoline dispensed is determined by a computation based on the metered quantity of gasoline at the loading rack. Test results are expressed in milligrams of hydrocarbons emitted per liter of gasoline transferred.

(3) Summary of the Method. This method describes the test conditions and test procedures to be followed in determining the emissions from systems installed to control volatile organic compound vapors resulting from tank truck and trailer loading operations at bulk terminals. Under this procedure, direct measurements are made to compute the hydrocarbon mass exhausted from the vapor control system. All possible sources of leaks are qualitatively checked to insure that no uncontrolled vapors are emitted to the atmosphere. The results are expressed in terms of mass hydrocarbons emitted per unit volume of gasoline transferred. Emissions are determined on a total hydrocarbon basis. If methane is present in the vapors returned from the tank trucks or trailers, provisions are included for conversion to a total nonmethane hydrocarbon basis.

(4) Applicability. This method is applicable to determining VOC emission rates at tank truck and trailer gasoline loading terminals employing vapor collection systems and either continuous or intermittent vapor control systems. This method is applicable to motor tank truck and trailer loading only as per 1200-3-18-.09.

(5) Apparatus. The components essential to the evaluation of emissions from gasoline loading terminals are:

- (a) portable combustible gas detector equipped to read 0 to 100 percent of the lower explosive limit,
- (b) flexible thermocouple with recorder,
- (c) gas volume meter, sized for the expected exhaust flow rate and range,
- (d) total hydrocarbon analyzer with recorder (flame ionization detector or nondispersive infrared equipped to read 0 to 10 percent by volume hydrocarbon as propane for vapor control systems which recover the vapor as liquid; or 0 to 10,000 ppm hydrocarbons as propane for incineration vapor control systems),
- (e) barometer to measure atmospheric pressure,
- (f) gas chromatography/flame ionization detector with a column to separate C_1 - C_7 alkanes; used if methane is present in recovered vapors or if incineration is the vapor control technique.

(6) Test requirements.

(a) No less than three 8-hour test repetitions will be performed.

(b) During the test period, all loading racks shall be open for each product line which is controlled by the system under test. Simultaneous use of more than one loading rack shall occur to the extent that such use would normally occur.

(c) Simultaneous use of more than one dispenser on each loading rack shall occur to the extent that such use would normally occur.

(d) Dispensing rates shall be set at the maximum rate at which the equipment is designed to be operated. Automatic product dispensers are to be used according to normal operating practices.

(e) Applicable operating parameters of the vapor control system shall be monitored to demonstrate that the control unit is operating at design levels. For intermittent vapor control systems employing a vapor holder, each test repetition shall include at least one fully automatic operation cycle of the vapor holder and control device. Tank trucks and trailers shall be essentially leak free as determined by the Technical Secretary.

(7) Basic Measurements Required. The basic measurements essential to the evaluation of emissions from gasoline loading terminals are:

(a) the amount of gasoline dispensed from gasoline dispensers,

(b) leak check of all fittings and vents,

(c) the following items for the processing unit exhaust;

1. temperature,

2. pressure,

3. volume of vapors,

4. hydrocarbon concentration of vapors,

5. gas chromatograph analysis of vapors if methane is present in recovered vapors.

(8) Test Procedure.

(a) Calibrate and span all instruments as outlined under paragraph (10) of this rule.

(b) Install an appropriately sized gas meter on the exhaust vent of the vapor control system. For those vapor control systems where size restrictions preclude the use of a volume meter; or when incineration is used for vapor control, a gas flow rate meter (orifice, pitot tube, annubar, etc.) is necessary. At the meter inlet, install a thermocouple with recorder. Install a tap at the volume meter outlet. Attach a sample line for a total hydrocarbon analyzer (0 to 10 percent as propane) to this tap. If the meter pressure is different than barometric pressure, install a second tap at the meter outlet and attach an appropriate manometer for pressure measurement. If methane analysis is required, install a third tap for connection to a constant volume sample/pump evacuated bag assembly as described in Method 3, Federal Register, 36:247, December 23, 1977.

(c) Measurements and data required for evaluating emissions from the system;

1. at the beginning and end of each test repetition, record the volume readings on each product dispenser on each loading rack served by the system under test,

2. at the beginning of each test repetition and each 2 hours thereafter, record the ambient temperature and the barometric pressure,

3. for intermittent vapor control systems employing a vapor holder, the unit shall be manually started and allowed to process vapors in the holder until the lower automatic cut-off is reached. This cycle should be performed immediately prior to the beginning of the test repetition before readings required under part (8) (c) 1 of this rule are taken.

4. for each cycle of the vapor control system during each test repetition, record the start and stop time, the initial and final gas meter readings, the average vapor temperature, pressure and hydrocarbon concentration. If a flow rate meter is used, record flow meter readouts continuously during the cycle. If required, extract a sample continuously during each cycle for chromatographic analysis for specific hydrocarbons,

5. for each tank truck or trailer loading during the test period, check all fittings and seals on the tanker compartments with the combustible gas detector. Record the maximum combustible gas reading for any incidents of leakage of hydrocarbon vapors. Explore the entire periphery of the potential leak source with the sample hose inlet 1 cm (0.4 inches) away from the interface,

6. during each test period, monitor all possible sources of leaks in the vapor collection and control systems with the combustible gas indicator. Record the location and combustible gas reading for any incidents of leakage,

7. for intermittent vapor control systems, the control unit shall be manually started and allowed to process vapors in the holder until the lower automatic shut-off is reached at the end of each test repetition. Record the data required under part (8) (c) 4. of this rule for this manual cycle. No loading shall be in progress during this manual cycle.

(9) Calculations.

(a) terminology;

T_a = Ambient temperature (°C)

P_b = Barometric pressure (mm Hg)

L_t = Total volume of liquid dispensed from all controlled racks during the test period (liters)

V_e = Volume of air-hydrocarbon mixture exhausted from the processing unit (M^3)

V_{es} = Normalized volume of air-hydrocarbon mixture exhausted, NM^3 @ 20°C, 760 mmHg

C_e = Volume fraction of hydrocarbons in exhausted mixture (volume % as $C_3H_{10}/100$, corrected for methane content if required)

T_e = Temperature at processing unit exhaust (°C)

P_e = Pressure at processing unit exhaust (mm Hg abs)

$(M/L)_e$ = Mass of hydrocarbons exhausted from the processing unit per volume of liquid loaded, (mg/liter).

(b) 1. Calculate the following results for each period of the vapor control system:

$$V_e = V_{ef} - V_{ei}, \quad (M^3)$$

where:

V_e = totalized volume from flow rate and time records.

V_{ef} = final volume.

V_{ei} = initial volume.

2. normalized volume of exhausted mixture:

$$V_{es} = \frac{(0.3858\ {}^{\circ}K/mmHg)\ V_eP_e}{(T_e + 273.2)}\ NM^3 \text{ @ } 20^{\circ}C,\ 760\ mmHg$$

3. mass of hydrocarbons exhausted from the vapor control system:

$$M_e = (1.833 \times 10^6 \frac{mgC_3H_8}{NM^3C_3H_8}) \times V_{es}C_e \ (mg)$$

(c) calculate the average mass of hydrocarbons emitted per volume of gasoline loaded:

$$(M/L)_e = \frac{Me}{Lt} \qquad \text{(mg/liter)}$$

(10) Calibrations.

(a) Flow meters shall be calibrated using standard methods and procedures which have been approved by the Technical Secretary.

(b) Temperature recording instruments shall be calibrated prior to a test period and following the test period using an ice bath (0°C) and a known reference temperature source of about 35°C. Daily during the test period, use an accurate reference to measure the ambient temperature and compare the ambient temperature reading of all other instruments to this value.

(c) Manufacturer's instructions concerning warm-up and adjustments shall be followed for total hydrocarbon analysers. Prior to and immediately after the emission test, perform a comprehensive laboratory calibration on each analyzer used. Calibration gases should be propane in nitrogen prepared gravimetrically with mass quantities of approximately 100 percent propane. A calibration curve shall be provided using a minimum of five prepared standards in the range of concentrations expected during testing;

1. For each repetition, zero with zero gas (3 ppm C) and span with 70 percent propane for instruments used in the vapor lines and with 10 percent propane for instruments used at the vapor control system exhaust.

2. The zero and span procedure shall be performed at least once prior to the first test measurement, once during the middle of the run, and once following the final test measurement for each run.

3. Conditions in calibration gas cylinders must be kept such that condensation of propane does not occur. A safety factor of 2 for pressure and temperature is recommended.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified July 10, 1979.

CHAPTER 1200-3-19
EMISSION STANDARDS AND MONITORING REQUIREMENTS FOR PARTICULATE AND SULFUR DIOXIDE NONATTAINMENT AREAS

1200-3-19-.01 PURPOSE

It is the purpose of this Chapter to establish specific emission standards for existing air contaminant sources located in or significantly impacting upon a nonattainment area within the State of Tennessee. The emission standards established in this Chapter will apply to those air contaminant sources specifically identified in addition to the standards contained in other chapters of Division 1200-3 of the Tennessee Air Pollution Control Regulations and any local regulations.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified April 23, 1979.

1200-3-19-.02 GENERAL REQUIREMENTS

No person shall cause, suffer, allow or permit emissions in excess of the standards set for each company, emission point, and/or source specified in the remaining rules of this Chapter 1200-3-19.

Authority: T.C.A. 53-3412. Administrative History. Original rule certified April 23, 1979.

1200-3-19-.11 PARTICULATE MATTER EMISSION REGULATIONS FOR THE BRISTOL NONATTAINMENT AREA

(1) Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978

(a) No person shall cause, suffer, allow or permit discharge of a visible emission from any stack with an opacity in excess of ten (10) percent for an aggregare of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

(b) No person shall cause, suffer, allow or permit discharge of a visible emission from any fugitive dust source with an opacity in excess of ten (10) percent on a 15 minute average except as provided in 1200-3-19-.11-(3).

(c) Specific Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

1. Wood Fired Boilers

(i) This part applies to units with a heat input greater than one (1) million Btu per hour.

(ii) The units shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

2. Wood Working Cyclones

Cyclone exhausts shall not discharge any gases with an opacity in excess of fifteen (15) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four hour period.

3. Traffic and Wind Emissions from Roadways and General Grounds of Plants

No person shall cause, suffer, allow or permit discharge of a visible emission with an opacity in excess of five (5) percent on a fifteen (15) minute average except as provided in 1200-3-19-.12-(3).

(2) Particulate Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(a) Wood Fired Boilers

1. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

2. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.55 pounds per million Btu of heat input not to exceed 7.7 pounds per hour.

(b) Cyclones on Wood Working Operations

No owner or operator shall discharge or cause the discharge into the atmosphere from cyclone exhausts any gases which contain particulate matter in excess of 0.02 gr/dscf not to exceed 5.0 pounds per hour.

(c) Fabric Filter Collectors (Baghouses) on Wood Working Operations

No owner or operator shall discharge or cause the discharge into the atmosphere from baghouse exhausts particulate emissions in excess of 0.1 pounds per hour.

(3) Compliance Schedules for Particulate Matter Air Contaminant Sources in or Significantly Impacting the Bristol Nonattainment Area

(a) The owner or operator of an air contaminant source of particulate fugitive dust emissions subject to the standards in this rule proposing utilization of new and/or additional control techniques shall achieve final compliance by December 31, 1979. Final compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.

(b) Magnetite (Fe_3O_4) Processing Plants

The owner or operator of all magnetite processing - size reduction and classification - plants shall cease all operations, remove all process equipment, remove magnetite storage, remove all structures and facilities associated with the processing and handling of the magnetite, and cover all property with fill material to a minimum depth of three (3) inches by July 1, 1979.

Statutory Authority: T.C.A. 53-3412.

1200-3-19-.12 PARTICULATE MATTER EMISSION REGULATIONS FOR AIR CONTAMINANT SOURCES IN OR SIGNIFICANTLY IMPACTING THE PARTICULATE NONATTAINMENT AREAS IN CAMPBELL COUNTY

(1) Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(a) No person shall cause, suffer, allow or permit discharge of a visible emission from any stack with an opacity in excess of ten (10) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period except as provided in 1200-3-19-.12-(4).

(b) No person shall cause, suffer, allow or permit discharge of a visible emission from any fugitive dust source with an opacity in excess of ten (10) percent on a 15 minute average except as provided in 1200-3-19-.12-(4).

(c) Specific Visible Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

1. Limestone Aggregate Plants.

Primary and secondary crushing, screening, and conveying of limestone shall not exceed 15% on a 15 minute average.

2. Coal Fired Boiler Units.

(i) This part applies to units with a heat input greater than one (1) million Btu per hour.

(ii) The units shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

3. Asphalt Concrete Plants

These plants shall not discharge visible emissions with an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

4. Traffic and Wind Emissions from Roadways and General Grounds of Plants.

No person shall cause, suffer, allow or permit discharge of a visible emission with an opacity in excess of five (5) percent on a fifteen (15) minute average except as provided in 1200-319-.12-(4).

(2) Particulate Emission Standards for Air Contaminant Sources in Operation Prior to January 1, 1978.

(a) Asphalt Concrete Plants

No owner or operator shall discharge or cause the discharge into the atmosphere from any affected facility any gases which contain particulate matter in excess of 0.06 gr/dscf except as provided in 1200-3-19-.12-(4).

(b) Limestone Aggregate Plants

No owner or operator shall discharge or cause the discharge into the atmosphere from limestone rock tertiary crushing and screening, and agriculture lime crushing and screening any gases which contain particulate matter in excess of 0.16 gr/dscf.

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(c) Feed and Grain Mills

No owner or operator shall discharge or cause the discharge from any stack any gases which contain particulate matter in excess of 0.02 gr/dscf.

(d) Concrete Block Plants

No owner or operator shall discharge into the atmosphere from any stack any gases which contain particulate matter in excess of 0.03 gr/dscf except as provided in 1200-3-19-.12-(4).

(e) Coal Fired Boiler Units

1. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.4 pounds per million Btu of heat input.

2. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

(f) Oil Fired Boiler Units

1. No owner or operator subject to the provisions of this subparagraph shall discharge or cause the discharge into the atmosphere from any affected facility particulate matter in excess of 0.015 pounds per million Btu of heat input.

2. This subparagraph applies to units with a heat input greater than one (1) million Btu per hour.

(g) Silicon Carbide Manufacturing Plant

1. No owner or operator shall discharge or cause the discharge into the atmosphere from any material unloading operation from Silicon Carbide Furnace Cars any gases which contain particulate matter in excess of 0.012 gr/dscf.

2. No owner or operator shall discharge or cause the discharge into the atmosphere from any primary crushing and screening of silicon carbide any gases which contain particulate matter in excess of 0.012 gr/dscf.

3. No owner or operator shall discharge or cause the discharge into the atmosphere from any secondary crushing and screening of silicon carbide, bagging, bulk loading, and storage operations any gases which contain particulate matter in excess of 0.003 gr/dscf.

4. No owner or operator shall discharge or cause the discharge into the atmosphere from any silicon carbide furnace car during the firing and cooling cycles any gases which contain particulate matter in excess of 0.012 gr/dscf not to exceed 5.1 pounds per hour except as provided in 1200-3-19-.12-(4).

(3) Limitation of Operating Hours

(a) No owner or operator shall operate any particulate matter air contaminant source subject to the regulations set forth in paragraph 1200-3-19-.12-(1) and (2) in excess of the specified limit on operating hours contained in Table I.

Table I
Limitation of Operating Hours

Air Contaminant Source	Operating Schedule
Grain Crushing and Feed Mixing	3000 HRS./YR
Boilers at Dry Cleaners and Laundrys	3000 HRS./YR.
Boilers at Schools	2000 HRS/YR.
Boilers at Churches	7000 HRS./YR.
Asphalt Concrete Plants	2500 HRS./YR.
Concrete Block Plants	3000 HRS./YR.
Limestone crushing, screening, conveying and handling facilities with a design capacity greater than 750 tons per hour	2500 HRS./YR. 16 HRS./DAY
Limestone crushing, screening, conveying, and handling facilities with a design capacity less than 250 tons per hour.	2100 HRS./YR.
Limestone crushing, screening, conveying and handling facilities with a design capacity less than or equal to 750 tons per hour and greater than or equal to 250 tons per hour	10 HRS./DAY 3210 HRS./YR.

(b) The owner or operator of an air contaminant source with restricted operating hours must maintain a daily log of operating hours and keep it available for inspection by Division personnel on request for at least one year after the end of any calendar year included in the log. The owner or operator shall submit by letter on or before January 31 of each year the total hours of operation for the previous calendar year and/or the maximum daily operation for said calendar year.

(4) Compliance Schedules for Particulate Matter Air Contaminant Sources in or Significantly Impacting the Particulate Nonattainment Area in Campbell County

(a) The owner or operator of an air contaminant source of particulate fugitive dust emissions subject to the standards in this rule proposing utilization of new and/or additional control techniques shall achieve final compliance by December 31, 1979. Final compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.

(b) No owner or operator shall cause, suffer, allow, or permit discharge of particulate matter emissions from any stack in excess of the standards in this rule after December 31, 1979. Final compliance shall be determined in accordance with the method(s) specified by the Technical Secretary.

(c) Specific Compliance Schedules

1. Owners or operators of asphalt concrete plants are required to have air contaminant sources achieve final compliance with the standards in this rule by July 1, 1979.

2. Owners or operators of concrete block manufacturing plants are required to have air contaminant sources achieve final compliance with the standards in this rule by July 1, 1979.

Statutory Authority: T.C.A. 53-3412.

1200-3-19-.13 PARTICULATE MATTER EMISSION REGULATIONS FOR THE BULL RUN NONATTAINMENT AREA, AND ODOMS BEND NON-ATTAINMENT AREA

(1) All particulate matter emission sources in operation prior to January 1, 1978 which are in and significantly impact on these nonattainment areas are subject to the general requirements as found in the Air Pollution Control Rules and Regulations of the State of Tennessee for sources in unclassified and attainment areas.

1200-3-19-.14 SULFUR DIOXIDE EMISSION REGULATIONS FOR THE NEW JOHNSONVILLE NONATTAINMENT AREA

(1) All sulfur dioxide emission sources in and significantly impacting on the New Johnsonville Nonattainment Area are subject to the requirements as found in Chapter 1200-3-14 of the Air Pollution Control Rules and Regulations of the State of Tennessee.

1200-3-19-.15 PARTICULATE MATTER MONITORING REQUIREMENTS FOR STEAM ELECTRIC GENERATING UNITS IN THE BULL RUN AND ODOMS BEND NONATTAINMENT AREAS

(1) This rule applies to fuel burning installations containing units of fuel burning equipment larger than 600 million Btu per hour heat input and which commenced operation before January 1, 1978.

(2) The owner or operator of a steam electric generating plant must operate at least five (5) particulate matter ambient air monitors meeting the requirements of Chapter 1200-3-12-.02 of the Tennessee Air Pollution Control Rules and Regulations until the area is designated as attainment. Even after being given an attainment classification, the owner or operator must continue to operate two (2) particulate matter ambient air monitors.

Statutory Authority: T.C.A. 53-3412.

1200-3-19-.19 Sulfur Dioxide Regulations for the Copper Basin Nonattainment Area

(1) Process emission sources located in or significantly impacting on the Copper Basin Nonattainment Area shall emit no emissions in excess of the following where each value is a one hour average (unless otherwise noted) on a dry basis of parts per million sulfur dioxide by volume:

(a)	Iron Roaster Impingement Scrubbers	50 PPM
(b)	Liquid Sulfur Dioxide Plants	375 PPM (3 hour average)
(c)	Organic Chemical Plants	50 PPM
(d)	Copper Smelters	100 PPM
(e)	Sulfuric Acid Plants	500 PPM (3 hour average)
(f)	Pellet Plants	500 PPM (3 hour average)

Where the general test methods specified in other chapters of these regulations cannot physically be applied to determine emissions from a particular source, then it shall be tested in accordance with the method specified by the Technical Secretary, considering testing cost and achieving a reliable measure of the true emissions.

(2) (a) During startup and shutdown of process emission sources as indicated in this paragraph, the sources indicated may operate in excess of the standards in paragraph (1). Maximum allowable emissions for these processes at these times are as indicated in Table 1. Where malfunctions occur which are beyond the control of the source operator and the emission levels exceed the allowable standards as stipulated in Table 1 of this paragraph, then these cases will be considered under Chapter 1200-3-20 of these regulations.

Table 1
Startup/Shutdown Allowable SO_2 Levels

Process Emission Source	Allowable for Startup/Shutdown 24 hour average	Allowable for Concurrent Startup/Shutdown 3 hour average	Allowable for Non-Concurrent Startup/Shutdown 3 hour average
Sulfuric Acid Plants	800 PPM	1200 PPM	1400 PPM
Liquid Sulfur Dioxide Plants	600 PPM	900 PPM	1000 PPM
Pellet Plants	800 PPM	1000 PPM	1500 PPM

(b) For purposes of this paragraph a concurrent period consists of a 3-hour period in which more than one acid plant and at least one liquid sulfur dioxide plant are in a startup or shutdown operating mode with or without any pellet plants being in operation at the same facility. Otherwise the three-hour period is a nonconcurrent period if any startups or shutdowns are occurring at acid plants, liquid sulfur dioxide plants, and/or pellet plants.

(c) All concentrations are parts per million by volume, dry basis.

(d) All other sources must meet the general emission standards in other paragraphs of this rule or Chapter 1200-3-14 even during startups and shutdowns.

(3) All liquid sulfur dioxide plants in existence prior to January 1, 1978, must exhaust any emissions through a stack at least 126 feet in vertical distance above grade directly below the tip of the stack.

(4) Compliance schedule.

(a) The owner or operator of a liquid sulfur dioxide plant not presently meeting the requirements of paragraph (3) shall let the necessary contracts for construction of stacks that will meet the requirements no later than January 1, 1980, shall initiate said construction no later than July 1, 1980, and shall complete construction of and utilize said complying stacks whenever the process is operated after July 1, 1981.

(b) The owner or operator of any liquid sulfur dioxide plant not meeting any of the emission standards of this rule must complete construction of modifications to meet said emission standards and start utilizing said equipment no later than May 1, 1979, must perform performance tests no later than July 1, 1979, and maintain compliance with the standards thereafter.

(5) (a) No owner or operator shall burn in any non-process fuel burning equipment located in or significantly impacting on the Copper Basin nonattainment area a #1 or #2 fuel oil with a sulfur weight content exceeding 0.500 percent nor shall such owner or operator burn in any non-process fuel burning equipment a #4, #5, or #6 fuel oil with a sulfur weight content exceeding 1.25 percent.

(b) For any process emission source or incinerator located in or significantly impacting on the Copper Basin nonattainment area for which there is no sulfur dioxide stack standard (PPM) contained within Rule 1200-3-19-.19 of these regulations, the owner or operator shall not burn a #1 or #2 fuel oil with a sulfur weight content exceeding 0.500 percent nor shall such owner or operator burn in the process emission source or incinerator a #4, #5, or #6 fuel oil with a sulfur weight content exceeding 1.25 percent.

(c) A higher sulfur content fuel may be utilized, but only where air pollution controls limit sulfur dioxide emissions to the amount that the specified fuels alone would result in and only after this has been specifically allowed and detailed as conditions on the operating permits. A stack test must be submitted to verify the effectiveness of the controls.

(d) For any process emission source in which fuel is burned and a standard is presently stipulated in paragraph 1200-3-19-.19-(1) of these regulations then such source shall not be limited in the sulfur content of fuel provided such source meets process standards contained in Rule 1200-3-19-.19.

(e) No mine shaft heater built between December 1, 1978 and January 15, 1979, may be operated for longer than 1080 hours in any one year.

(f) The owner or operator of an air contaminant source with restricted operating hours must maintain a daily log of operating hours and keep it available for inspection by Division personnel on request for at least one year after the end of any calendar year included in the log. The owner or operator shall submit by letter on or before January 31 of each year the total hours of operation for the previous calendar year and/or the maximum daily operation for said calendar year.

Statutory Authority: T.C.A. 53-3412.

THE HAMILTON COUNTY AIR POLLUTION CONTROL

REGULATION
(AS AMENDED)

A REGULATION FOR AIR CONSERVATION AND THE PREVENTION: ABATEMENT AND CONTROL OF AIR POLLUTION: CREATING AN AIR POLLUTION CONTROL AUTHORITY AND PRESCRIBING ITS POWERS AND DUTIES: AND ESTABLISHING STANDARDS, RULES AND REGULATIONS FOR THE ABATEMENT AND CONTROL OF AIR POLLUTION AND PROVIDING PENALTIES FOR VIOLATIONS THEREOF: AND PROVIDING FOR THE ISSUANCE, SUSPENSION AND REVOCATION OF INSTALLATION PERMITS, TEMPORARY OPERATING PERMITS AND CERTIFICATES OF OPERATION: AND AUTHORIZING THE IMPOSITION AND COLLECTION OF PENALTIES AND FORFEITURES: AND REQUIRING MONITORING OF SOURCES AND MAKING EMISSION DATA AVAILABLE TO THE PUBLIC: AND PROVIDED FOR THE LICENSING OF OPERATORS OF CERTAIN TYPES OF EQUIPMENT.

WHEREAS, air pollution in all its forms is a menace to health, safety, and economy of all citizens; and

WHEREAS, preventable air pollution can be corrected or removed as a public hazard through engineering, science, equipment, research, education, and cooperation; and

WHEREAS, the excessive emissions of air contaminants are causing atmospheric pollution which must be prevented and abated to the extent necessary to prevent deleterious effect upon the public health, welfare, property, and business and requires the adoption of a comprehensive and integrated plan for air pollution control; now, therefore, the following regulations have been adopted by the County Council of Hamilton County, Tennessee.

SECTION 1

Declaration of Policy and Purpose: Title

Section 1-A. It is hereby declared to be the public policy of this county and the purpose of this regulation to achieve and maintain such levels of air quality as will protect human health and safety and to the greatest degree practicable, prevent injury to plant and animal life and property, foster the comfort and convenience of the people.

Section 1-B. To these ends it is the purpose of this regulation to provide a program of air pollution prevention, abatement, and control.

Section 1-C. This regulation shall be known and cited as "The Hamilton County Air Pollution Control Regulation".

SECTION 2

Air Pollution Control Board: Bureau of Air Pollution Control.

Section 2-A. Air Pollution Control Board.

1. There is hereby created the Chattanooga-Hamilton County Air Pollution Control Board, hereinafter referred to as "the Board" to be composed of ten members, three of whom are to be appointed by the County Judge and confirmed by the County Council; three of whom are to be appointed by the Mayor of the City of Chattanooga, and confirmed by the City Commission; three of whom are to be appointed jointly by the county Judge and the Mayor and confirmed by both the City Council and the City Commission. The terms of members shall be four years except that of the initially appointed members, one from each of the above categories shall serve for two years, and one from each shall serve for three years, and one from each shall serve for four years as designated at the time of appointment. Whenever a vacancy occurs, the vacancy shall be filled for the unexpired term in the same manner as the original appointment. The Director the Chattanooga-Hamilton County Health Department or his designated representative shall be an ex-officio voting member, provided, however, that if the Director of the Chattagoona-Hamilton County Health Department desires to designate a representative such designation shall be made on an annual basis and in writing prior to June 30th of each year and such designated representative shall serve as the ex-officio member in the place of the Director of the Chattagoona-Hamilton County Health Department. Provided further, that should the designated representative resign or otherwise terminate his employment with the Chattagoona-Hamilton County Health Department such shall terminate his appointment to, and service upon the Board.

2. The members of the Board shall have the following qualifications: They shall be residents of the metropolitan area of Chattanooga, Tennessee, residing within Hamilton County, Tennessee, or Walker County, Georgia, Industry may have no more than three members active or retired, of whom no more than one shall be from any major two-digit grouping as defined by the Standard Industrial Classification Manual of the United States Department of Commerce. The Chairman of the Board shall have the right to vote on all matters. Members shall be selected for merit without regards to political affiliation; the Mayor and Judge in their appointments shall select persons for their ability and all appointments shall be of such nature as to aid the work of the Board, to inspire the highest degree of confidence and cooperation in furthering the policy of this regulation.

3. The Board shall select annually a Chairman, Vice-Chairman and Secretary from among its members as officers; each officer shall have the right to vote on all matters, and shall hold office until the expiration of the term for which elected and thereafter until his successor has been elected. The Board shall hold at least four regular meetings each

year and such additional meetings as the chairman deems desirable, at a place within this County and time to be set by the Chairman. Special meetings shall be called by the Chairman upon written request of any four members. Six members shall constitute a quorum.

4. All members of the Board shall service without compensation but shall receive their actual expenses incurred in attending meetings of the Board and the performance of any duties as members or by direction of the Board.

5. The Board may employ and discharge such employees and consultants as may be necessary for the administration of this regulation with the approval of the Mayor, County Judge and Chairman of the Board or with the approval of any two of said officials. Subject to any applicable restrictions contained in law, all departments and agencies of the County shall, upon request, assist the Board in the performance of its duties, with or without charge. The Board may conpensate such other agencies for services.

Section 2-B. Bureau of Air Pollution Control.

There is hereby created a Bureau of Air Pollution Control, hereinafter referred to as "the Bureau," which shall be headed by a director appointed by the Board, subject to the approval of the Mayor, County Judge and Chairman of the Board or with the approval of any two of said officials. The Bureau shall administer this regulation under the overall supervision of the Board, and shall provide, by rules consistent wit law, for the performance by the officers and employees of any act or duty necessary or incidental to the administration of this regulation.

Section 2-C.

Persons responsible for compliance with this regulation and who are liable for violation of this regulation shall include, but not necessarily be limited to, all persons owning, occupying, operating, in charge of or in control of any premises, equipment, installations or operations from which or as a result of which any violation of this regulation shall occur whether such persons be proprietor, owner, lessee, tenant, manager, operator or in charge of such premises, equipment, installations or operations, and further any of the foregoing who having a reasonable opportunity to do so should fail to take all reasonable and necessary steps to terminate or abate any condition or operation which causes or from which arises a violation of this regulation shall be deemed to be in violation of this regulation. Any one or more of the foregoing persons shall be held individually and jointly responsible for compliance herewith and shall be jointly and severally liable for violation hereof.

SECTION 3

Powers and Duties of the Board: Delegation

Section 3-A. In addition to any other powers otherwise conferred upon it by law, the Board shall have power to:

1. Recommend from time to time to the County Council that it adopt, promulgate, amend, and repeal provisions of this regulation; provided, however, that prior to making such recommendations a public hearing shall be held on such proposed changes with adequate advance public notice of such hearing.

2. Hold hearings relating to any aspect of or matter in the administration of this regulation.

3. Make such determinations and issue such orders as may be necessary to effectuate the purposes of this regulation and enforce the same by all appropriate administrative and judical proceedings.

4. Retain, employ, provide for, and compensate, within appropriations available therefore, such consultants, assistants, deputies, clerks, and other employees including legal counsel, on a full or part-time basis as may be necessary to carry out the provisions of this regulation and prescribe the times at which they shall be appointed and their powers and duties consistent with Section 2-A of this regulation.

5. Through its Bureau, determine by means of field studies and sampling the degree of air contamination and air pollution in the County and various areas therein.

6. Recommend ambient air quality standards for the County.

7. Hold hearings upon appeals from orders of the Director, or from the grant or denial of the Director, or permits, or from any other actions or determinations of the Director hereunder for which provision is made for appeal.

8. Institute in the name of the County in the Circuit Court or the Chancery Court of Hamilton County, Tennessee, legal proceedings to compel compliance with any final order or determination entered by the Board or the Director.

9. Settle or compromise in its discretion, with the approval of the County attorney, as it may deem advantageous to the County and in keeping with the purpose and spirit of this regulation, any suit for recovery of any penalty or from compelling compliance with the provisions of any rule or regulation issued hereunder or for compelling compliance with any order or determination entered by the Board or the Director.

10. Require access to records relating to emissions which cause or contribute to air contamination.

11. Issue, suspend and revoke installation permits, temporary operating permits and certificates of operation and other permits and licenses provided for in this regulation.

12. To provide for forfeitures and penalties for any breach of this regulation, such forfeitures and penalties to be imposed upon a violator only after hearing, or opportunity for hearing, before the Board and to provide for forfeitures and penalties upon failure of a violator of this regulation to comply with any order of the Board, and to bring legal actions in the name of the County in the appropriate court for the collection of such penlty or forfeiture.

Section 3-B. The Board shall have the following duties with respect to the prevention, abatement, and control of air pollution:

1. Prepare and develop a comprehensive plan or plans for the prevention, abatement, and control of air pollution in this County and report annnually to the County Judge and County Council of Hamilton County on progress being made toward the prevention, abatement, and control of air pollution.

2. Encourage voluntary cooperation by persons and affected groups to achieve the purposes of this regulation.

3. Encourage and conduct studies, investigations, and research relating to air contamination and air pollution and their causes, effects, prevention, abatement and control.

4. Collect and disseminate information and conduct educational and training programs relating to air contamination and air pollution.

5. Advise, consult, contract, and cooperate with other agencies of th State and this County, other local governments, industries, other States, interstate or interlocal agencies, and the Federal Government, and with interested persons or groups.

6. Accept, receive, and administer grants or other funds or gifts from public or private agencies, including the State and Federal Governments, for the purpose of carrying out any of the functions of this regulation. Such funds received by the Board pursuant to this subdivision shall be deposited with the City of Chattanooga Treasurer and or Hamilton County and held and disbursed by said office in accordance with regulations of the Board. The Board is authorized to promulgate such rules of the conduct of its business and as it may deem necessary for carrying out the provisions of this regulation.

Section 3-C. The Board may delegate to the Director, and through him to the personnel of the Bureau, any powers conferred upon the Board by this section with the exceptions of those enumerated in subsections 1, 4, 6, 7, and 9 of subsection A of this section. The Board may request the assistance of the Director and the Bureau in the discharge of the duties enumerated in subsection B of this section but shall not be relieved thereby of the ultimate responsibility for their fulfillment.

SECTION 4

Enforcement: Procedure for Adjudicatory Hearings

Section 4-A. Whenever the Board or Director has reason to believe that a violation of any provision of this regulation or rule pursuant thereto has occurred, the Board or Director may cause written notice to be served upon the alleged violator or violators. The notice shall specify the provision of this regulation or rule alleged to be violated and the date, time, place, and general nature of the alleged violation or violations thereof and may include an order that necessary corrective action be taken within a reasonable time. The notice herein provided for may be served by the Sheriff or a Deputy Sheriff of Hamilton County, Tennessee; or by a special deputy sheriff; or may be served in any other manner prescribed for the service of a writ or summons by the statutes of the State of Tennessee. Any such order shall become final unless, no later than thirty days after the date of notice and order are served the person or persons named therein request in writing a hearing before the Board. Upon such request, the Board shall hold a hearing. In lieu of an order, the Board may require that the alleged violator or violators appear before the Board for a hearing at a time and place specified in the notice and answer the charges complained of, or the Board may initiate action pursuant to Section 18 or Section 19 of this regulation, or the Board may initiate action pursuant to any applicable provisions of the statutes of the State of Tennessee, or the Acts of Congress of the United States, or the Board may initiate action pursuant to any provisions or doctrines of the law of Tennessee.

Section 4-B. If, after a hearing held purusant to subsection A of this section, the Board finds that a violation or violations have occurred, it shall affirm or modify the order previously issued, or issue an appropriate order or orders for the prevention, abatement, or control of the emissions involved or for the taking of such other corrective action as may be appropriate. If, after hearing on an order contained in a notice the Board finds that no violation has occurred, it shall rescind the order. Any order issued as part of a notice or after hearing may prescribe the date or dates by which the violation or violations shall cease and may prescribe timetables for necessary actions in preventing, abating, or controlling the emissions. All action taken by the Board under this section shall be approved in writing by the chairman, vice-chairman or chairman pro tem. of the Board.

Section 4-C. Nothing in this regulation shall prevent the Board or Director from making efforts to obtain voluntary compliance through warning, conference, or any other appropriate means. Nothing in this regulation, or in this section of this regulation, shall be construed as requiring a hearing pursuant to this section of this regulation prior to or as prerequisite to the institution of action pursuant to any other section of this regulation or pursuant to the statutes of the State of Tennessee, the Acts of Congress of the United States, or any applicable doctrine of the law of the State of Tennessee; and nothing in this regulation or this section of this regulation shall prevent the Board or Director from suspending or revoking an installation permit or a temporary operating permit or any other permit or license issued pursuant to the provisions of this regulation, but notice shall be served pursuant to this section of this regulation prior to revocation of a valid and outstanding certificate of operation.

SECTION 5

Variances

Section 5-A. Any person who owns or is in control of any plant, building, structure, process or equipment may apply to the Board for a variance from rules or regulations. The Board may grant such variance if it finds that:

1. The emissions occurring or proposed to occur do not endanger or are not likely to endanger human health or safety; and

2. Compliance with the rules or regulations from which variance is sought would produce serious hardship without equal or greater benefits to the public.

Section 5-B. No variance shall be granted pursuant to this section except after public hearing on due notice by publication in a newspaper of general circulation and until the Board has considered the relative interests of the applicant, other owners or property likely to be affected by the discharges, and the general public.

Section 5-C. Any variance or renewal thereof may be granted within the requirements of subsection 5-A and for the time periods and under conditions consistent with the reasons therefor and with the following limitations:

1. If the variance is granted on the ground that there is not practicable means known or available for the adequate prevention, abatement, or control of the air pollution involved, it shall be only until the necessary means for prevention, abatement, or control becomes known and available and subject to the taking of any substitute or alternate measures that the Board may prescribe.

2. If the variance is granted on the ground that compliance with the particular requirement or requirements from which variance is sought will necessitate the taking of measures which, because of their extent or cost, must be spread over a considerable period of time, it shall be for a period not to exceed such reasonable time as, in the view of the Board is requisite for the taking of the necessary measures. A variance granted on the ground specified herein shall contain a timetable for the taking of action in an expeditious manner and shall be conditioned on adherence to such timetable.

3. If the variance is granted on the ground that it is justified to relieve or prevent hardship of any kind other than provided for in items 1 and 2 of this subsection, it shall be for not more than one year.

Section 5-D. Any variance granted pursuant to this section may be renewed on terms and conditions and for periods which would be appropriate on initial granting of a variance. If complaint is made to the Board on account of the variance, no renewal thereof shall be granted, unless, following public hearing on the complaint notice, the Board finds that renewal is justified. No renewal shall be granted except on application therefor. Any such application shall be made at least thirty (30) days prior to the expiration of the variance. Immediately upon receipt of an application for renewal, the Board shall give public notice of such application in accordance with rules and regulations of the Board.

Section 5-E. A variance or renewal shall not be a right of the applicant or holder thereof but shall be in the discretion of the Board. However, any person adversely affected by a variance or renewal granted by the Board may obtain judicial review thereof by a proceeding in the Chancery Court. Judicial review of the denial of a variance may be had only on common law writ of certiorari on the ground that the denial is arbitrary or capricious.

Section 5-F. Nothing in this section and no variance or renewal granted pursuant hereto shall be construed to prevent or limit the application of the emergency provisions and procedures of Section 6 of this regulation to any person or his property.

Section 5-G. Any hearing held under the provisions of this section shall conform with the relevent requirements set out in Section 7 of this regulation.

SECTION 6

Emergencies

Any other provisions of law to the contrary notwithstanding, if the Director and/or the Director of the Chattagoona-Hamilton County Health

Department finds that a condition of air pollution exists or is likely to exist, and that it creates an emergency requiring immediate action to protect human health or safety, the County Judge with the concurrence of the Director and/or the Director of the Chattanooga and Hamilton County Health Department, shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air contaminants. Upon issuance of any such order, the Director shall fix a place and time, not later than 24 hours thereafter, for a hearing to be held before the Board. Not more than 24 hours after the commencement of such hearing, and without adjournment thereof, the Board shall affirm, modify, or recommend to the County Judge that the order be affirmed, modified, or set aside.

SECTION 7

Hearings and Judicial Review

Section 7-A. At any public hearing all testimony taken before the Board shall be under oath and recorded stenographically, but the record shall not be transcribed unless any party desires to appeal from any order or determination of the Board, and in such event the appearling party shall pay for the transcription and reimburse the Board its stenographic expense incident to the hearing.

Section 7-B. The Chairman, Vice-Chairman, or Chairman pro tem. of the Board or the Director may issue notice for the hearing and may issue subpoenas requiring attendance and testimony of witnesses and/or the production of evidence relevant to any matter involved in such hearing. Said subpoena shall be served in the same manner as is provided for service of notice in Section 4. The Director shall issue subpoenas requested by a person upon whom notice has been served to appear for a hearing or who otherwise has a real and substantial interest in the hearing. The Chairman, Vice-Chairman or Chairman pro tem. or Director is authorized to administer oaths and to examine witnessess. Witnesses may likewise be examined by any member of the Board, the County Attorney, the attorney representing the Board, the attorney presenting proof from the Bureau, the applicant for variance or his attorney, an alleged violator or his attorney, or any other person determined by the Board to have a real and substantial interest in the hearing or his attorney. In case of a refusal to obey a subpoena under this regulation, upon approval of a majority of the members of the Board conducting the hearing, application may be made to any State court of record for such necessary orders or other proceedings to compel the attendance and testimony of said witness or witnesses and/or to compel the production of such evidence. Upon application to a State court of record the Court may issue such order and failure to appear before the Board or produce evidence will be deemed to be contempt of the court from which such order has issued. Failure to obey the order shall be punishable as provided by ordinances, state statutes or the common law for failure to obey a subpoena issued for appearance of a witness before such court.

Section 7-C. All hearings shall be held before not less than a majority of the Board.

Section 7-D. Nothing in this section shall be construed to require a hearing prior to the issuance of an emergency order pursuant to Section 6 of this regulation or prior to the institution of action pursuant to any other section or provision of this regulation or the statutes of the State of Tennessee, the Acts of Congress of the United States, or any applicable doctrine of the law of the State of Tennessee.

Section 7-E. Any person aggrieved by any order or determination of the Director may appeal said order or determination to the Board and may request a public hearing before the Board pursuant to the provisions of this Section 7. Notice of appeal and a bond in the amount of $250.00 to secure costs of the hearing shall be filed in the Bureau within 30 days after the date of the final order or determination from which appeal is sought. The filing of the notice of appeal and bond herein provided for within the time herein prescribed shall perfect the appeal to the Board. Upon receipt of said notice of appeal and bond, the Director shall immediately notify the Chairman, Vice-Chairman or Chairman pro tem. of the Board of the appeal. The hearing on appeal to the Board may be had at a special meeting of the Board called by the Chairman, Vice-Chairman or Chairman pro tem. or at a regular meeting. The perfecting of the appeal as herein provided shall suspend the operation of the order or determination appealed from until such time as the Board has acted upon the appeal. Any person aggrieved by any final order or determination of the Board hereunder shall have judicial review thereof by common law writ of certiorari. No judicial review shall be available until and after all administrative remedies have been exhausted.

SECTION 8

Confidentiality of Certain Records

Any records or other information of a confidential nature voluntarily furnished to the Board by the owner or operator concerning one or more air contaminant sources which records or information as certified by the owner or operator relate to confidential productions or sales figures or to processes or productions unique to the owner or operator or which would affect adversely the competitive position of such owner or operator if made available to the general public shall be only for the confidential use of the Board in the administration of this regulation, unless such owner or operator shall expressly agree to the publication or availability to the general public, provided, however, that no such records or information shall be considered as of a confidential nature unless accepted in writing by the Board as confidential. Nothing herein shall be construed to prevent the use of such records or information by the Board in compiling or publishing analyses or summaries relating to the general conditions of the outdoor atmosphere provided that such analyses or summaries do not identify any owner or operator or reveal any information considered confidential under this section. Notwithstanding the foregoing, neither the composition of air contaminants nor emission data shall be considered confidential under this section.

SECTION 9

Rules, Regulations, Criteria, and Standards

Be it further resolved by the County Council of Hamilton County, Tennessee, that the following rules, regulations, criteria, and standards for air pollution control are hereby adopted:

Rule 1 — Title

These regulations shall hereafter be known and referred to as the "Chattanooga-Hamilton County Air Pollution Control Regulations."

Rule 2 — Regulation of Nitrogen Oxides

Rule 2.1. No person shall cause, suffer, allow or permit the emission of nitrogen oxides, expressed as nitrogen dioxide, from fuel burning equipment built or installed on and after the 1st day of January, 1973, in excess of the following:

a. 165 ppm corrected to 15 percent excess air when gaseous fossil fuel is fired (equivalent to 0.20 pounds of nitrogen oxides, expressed as nitrogen dioxide, per million BTU heat input).

b. 227 ppm corrected to 15 percent excess air when liquid fossil fuel is fired (equivalent to 0.30 pounds of nitrogen oxides, expressed as nitrogen dioxide, per million BTU heat input).

c. 525 ppm corrected to 15 percent excess air when solid fossil fuel is fired (equivalent to 0.70 pounds of nitrogen oxides, expressed as nitrogen dioxide, per million BTU heat input).

When different fossil fuels are burned simultaneously in any combination, the applicable standard shall be determined by proration (i.e. the allowable emission, expressed as nitrogen dioxide, shall be equal to the value obtained from the equation: $A = S \times (525) + L \times (227) + G \times (165)$ where

S = fraction of total heat input derived from solid fossil fuel

L = fraction of total heat input derived from liquid fossil fuel

G = fraction of total heat input derived from gaseous fossil fuel

A = The emission limit in ppm

Rule 2.2. On and after the 1st day of July, 1975, no person shall cause, suffer, allow or permit the emission of nitrogen oxides from any nitric acid plant in being before the 1st day of January, 1973, in excess of 5.5 pounds (calculated as nitrogen dioxide) per ton of acid produced.

Rule 2.3. No person shall cause, suffer, allow or permit the emission of nitrogen oxides from any nitric acid plant build or installed on and after the 1st of January, 1973, in excess of 3 pounds (calculated as nitrogen dioxide) per ton of acid produced.

Rule 2.4. All sampling of emissions from any source of nitrogen oxides and all analyses of samples to determine the amount of nitrogen oxides in such samples shall be conducted as specified by techniques promulgated by the Board.

Rule 3 — Visible Emission Regulations

Rule 3.1. No person shall cause, suffer, allow or permit discharge of a visible emission from any new air contaminant source with a density greater than number one (1) of the Ringelmann Chart or an opacity in excess of twenty (20) percent for an aggregate of more than five (5) minutes in any one (1) hour or more than twenty (20) minutes in any twenty-four (24) hour period.

Rule 3.2. No person shall cause, suffer, allow or permit discharge of a visible emission from any existing air contaminant source with a density equal to or greater than number two (2) of the Ringelmann Chart or an opacity equal to or in excess of forty (40) percent for more than five (5) minutes in any one (1) hour or in aggregate of more than twenty (20) minutes in any twenty-four (24) hour period.

Rule 3.3. On and after the 1st day of July, 1974, the provisions of Rule 3.2 above stated shall no longer be applicable and all air contaminant sources shall be construed as new sources for the purpose of Rule 3 of this regulation and shall be required to meet those standards set forth in Rule 3.1 above stated.

Rule 3.4. Due allowance shall be made for visible emissions in excess of that permitted in Rule 3.1 and Rule 3.2 of this regulation which are necessary or unavoidable due to start-up, breakdown or upset conditions provided the owner or operator shall maintain a running, current log of such start-up, breakdown or upset condition showing the time at which such condition began and ended and that such record shall be available to the Director or his representative upon request. For those operations subject to a permit it shall be permissible to omit the record of start-up conditions not in compliance with Rule 3.1 and Rule 3.2 when ~~such~~ start-up condition has previously been made a part of the permit.

Rule 3.5. It is expressly intended that in testing compliance with Rule 3.1 and Rule 3.2 that visible emissions tending to produce a black plume will be evaluated in terms of the Ringelmann Chart scale and that visible emission tending to produce a non-black plume will be evaluated in terms of equivalent opacity and expressed as percent opacity.

Rule 3.6. Visible emissions from fuel-burning equipment used exclusively to provide space heating in a building containing not more two (2) dwelling units shall not be subject to the provisions of this Rule 3 of this regulation.

Rule 4 — Regulation of the Importation, Sales, Transportation, Use or Consumption of Certain Fuels

Rule 4.1. It shall be unlawful for any person to import, sell, offer for sale, expose for sale, exchange, deliver or transport for use and consumption in the county, or to use or consume in the County, any fuel containing in excess of 2% sulfur content by weight for fuel burning equipment regulated under Rule 8 and Figure 1. Fuels with sulfur contents greater than allowed in this rule may be burned, used, and consumed, and may be delivered by any person to any user, provided said user utilizes methods or processes or a combination of methods or processes approved in writing by the Director which will limit the emission of sulfur dioxide from the source to a quantity or rate not greater than that which would result from the use of a low sulfur fuel as specified in the first part of this rule. Any person who desires to sell, offer for sale, expose for sale, exchange, deliver, or transport for use and comsumption any fuel with sulfur content greater than allowed as hereinabove set forth upon the basis that the user utilizes methods or processes approved in writing by the Director as hereinabove set forth must have in his possession at the time of sale, offer for sale, exposure for sale, exchange, delivery or transport an exact reproduced copy of the approval by the Director as hereinabove provided for, which approval must at that time be valid, effective and unrevoked. Sale, offer for sale, exposure for sale, exchange, delivery or transport for use and consumption in the absence of such copy of such valid, effective and unrevoked written approval shall be prima facie a violation of this rule and the burden shall be upon the person charged to establish that written and effective approval had been extended by the Director as hereinabove provided.

Rule 4.2. To determine compliance with Rule 4.1 above, the Board is authorized under this regulation to make, or obtain, tests of fuel it deems necessary to determine compliance.

a. An adequate supply of the fuel, ready for use, must be made available to the Director to conduct whatever tests in accordance with A.S.M.E., P.T.C. 3.2—1954 he deems necessary.

b. Any person whose fuel is submitted to such tests must pay all expenses necessary to conduct the tests found to be in violation

c. Tests certified by a competent person approved by the Director may be accepted by the Director as the tests required by this Rule.

Rule 4.3. The provisions of Rule 4 of this regulation shall become effective on and after the 14th day of October, 1970.

Rule 4.4. The Director or his representative may examine the weigh bills for all fuels delivered to and by all fossil fuel dealers by any means of transportation.

Rule 5 — Prohibition of Hand-Fired Fuel Burning Equipment

Rule 5.1. All hand-firing with solid fuels will be prohibited on and after the 14th day of October, 1972.

Rule 5.2. Rule 5.1 shall not apply to fuel burning equipment used exclusively for heating a dwelling designed for occupancy of less than three families.

Rule 5.3. Where it is shown by a person to be unduly costly to comply with Rule 5.1 for a specific installation without a commensurate benefit to the public, the Board may, upon written request by such person, grant an extension of time for compliance with Rule 5.1. Such extensions shall expire in not more than one (1) year but may, in the discretion of the Board, be further extended upon a new showing of the necessity for such extension, by such a person.

Rule 6 — Prohibition of Open Burning

Rule 6.1. No person shall cause, suffer, allow or permit open burning except as provided in Section 6.3. No person shall fail or refuse to take all reasonable and necessary steps and precautions to prevent open burning upon any premises owned, occupied or under the control of such person. No person shall fail or refuse to take all reasonable and necessary steps and precautions to extinguish or otherwise terminate and abate any premises owner, occupied or under the control of such person or upon premises upon which such person is carrying out any operation or activity.

Rule 6.2. No person shall conduct a salvage operation by open burning.

Rule 6.3. Open burning of vegetation and wood materials may be permitted by the Director provided the following conditions are met:

a. A signed application shall be submitted to the Director giving the reasons why no other method of disposal can be employed, amount of material to be burned and location of material to be burned.

b. No burning shall occur until such inspection of the material as may required by the Bureau is conducted.

c. Burning shall be conducted only on days of low pollution potential, as determined by the Bureau, and only between the hours of 9:00 A.M. and 4:00 P.M. on such days.

d. Only clean fuel not containing garbage, rubber, plastics or other refuse shall be allowed for the start-up of fires.

e. Written approval is received from the Director.

Rule 6.4. Controlled burning of vegetation and wood materials may be permitted by the Director provided the following conditions are met:

a. A signed application shall be submitted to the Director including the following:

  1. Complete plans and details of the method and equipment to be used for the control of such burning.

  2. Name of the person in charge of the equipment and how he may be contacted.

b. An annual fee of $100.00 shall be included with the application, which fee shall be collected by the Bureau and remitted to the Fiscal Agent of the Board. Controlled burning permits are renewable annually. Application for renewal of a controlled burning permit shall be made in writing not less than sixty (60) days prior to the expiration of the permit for which renewal is sought.

c. Written approval is received from the Director.

Rule 6.5. Open burning shall be allowed without compliance with Rule 6.3 only in the following specifically listed instances:

a. Fires used for cooking of food or for ceremonial or recreational purposes, including barbecues and outdoor fireplaces, but only if such fires are fuelled for that particular purpose.

b. Fires set by or at the direction of responsible fire control agencies for the prevention, elimination or reduction of the spread of existing fires.

c. Safety flares and smokeless flares, except those for the combustion of waste gases. Flares for the combustion of waste gases shall comply with applicable provisions of Section 10 of this regulation.

Rule 6.6. Open burning may be permitted in the following instances, provided a written statement, such as is required in Rule 6.3.a. is filed with the Director and written approval is given by the Director:

a. Fires set for the training and instruction of public or private fire fighting personnel, including those in civil defense.

b. Other open burning where there is no other practical, safe and lawful method of disposal.

Rule 7 — Incinerator Regulation

Rule 7.1. All existing installations from which any air contaminant is emitted or escapes into open air as a result of the operation of any incinerator shall comply with the provisions of Rule 7.3 and 7.4 on and after the 14th day of October, 1972. Provided, however, that on or before the 14th day of October, 1971, the person in responsible charge of such installation shall file with the Director plans and a compliance schedule.

Rule 7.2. Rules 7.3 and 7.4 shall apply to all new incinerator installations.

Rule 7.3. No person shall cause, suffer, allow or permit emission form any incinerator in being before the 1st day of January, 1973, in excess of 0.4 pounds per 100 pounds charge. No person shall cause, suffer, allow or permit emission from any incinerator built or installed on and after the 1st day of January, 1973, in excess of 0.1 pounds per 100 pounds charge. Provided, however, that on and after the 1st day of July, 1975, no person shall cause, suffer, allow or permit emission from any incinerator in excess of 0.1 pounds per 100 pounds charge.

Rule 7.4. All incinerators constructed after the 14th day of October, 1969, shall be of the multiple chamber design consisting of three or more refractory lined combustion furnaces connected in series and with provisions to (1) create a preignition temperature of 800° F. in the primary furnace and (2) maintain a temperature of 1500° F. in the secondary furnace.

Designs other than those outlined above shall be considered on an individual basis and will be exempt from these provisions, if said design results in performance which meets the standards set forth in Rule 7.3 above.

Rule 7.5. All incinerators must be supplied with an effective spark arrester and a barometric damper.

Rule 7.6. A pathological waste incinerator is one which has a solid hearth and which otherwise complies with the provisions of Rule 7.4. Any non-pathological waste incinerator in which pathological wastes are to be burned must have a solid hearth of sufficient size to accomodate such waste, which hearth must be located in such position that the waste can be placed oppsite the flame port in the hottest part of the primary chamber. Unless the incinerator is specifically designed for the burning of pathological waste, no more than ten (10) percent of a charge shall consist of pathological waste.

Rule 7.7. On and after the 1st day of March, 1973, the person in responsible charge of the operation of an incinerator must be licensed by the Bureau. Such license shall be issued only after a passing score is received on a standardized test to be devised and administered by the Bureau. The Bureau shall test persons on their knowledge of the principles of incineration, including but not necessarily limited to the subjects of preignition, firing and cleaning. The Bureau shall have the power to collect a onetime fee of $5.00 pursuant to the issuance of such license. Said fee shall be remitted to the Fiscal Agent of the Board. The Director shall have authority to suspend or revoke such license if the person holding such license willfully or by reason of incompetence violates any provision of this regulation. No license issued in accordance with the provisions of this Rule shall be assignable or transferrable. The failure to issue a license, or suspension or revocation of such license shall be an order or determination of the Director within the meaning of Section 7-E of this regulation.

Rule 8 — Fuel Burning Equipment Regulations

Rule 8.1. All existing installations from which any air contaminant is emitted or escapes into open air as a result of the combustion of fuel shall comply with Schedule 1 of Table 1 and with the provisions of Rule 8.3. on and after the 14th day of October, 1972. Schedule 1 of Table 1 and the provisions of Rule 8.3. shall apply to all new fuel burning installations. Provided, however, that on and after the 1st day of July, 1974, the emission limits of Schedule 1 of Table 1 shall no longer be applicable and no person shall cause, suffer, allow or permit the emission of air contaminants from fuel burning equipment in being before the 1st day of January, 1973, in excess of that provided in Schedule 2 of Table 1.

Rule 8.2. No person shall cause, suffer, allow or permit the emission of air contaminants from fuel burning equipment build or installed on and after the 1st day of Jaunary, 1973, in excess of that provided in Schedule 3 of Table 1.

Rule 8.3. The emission or escape into the open air of fly ash, particulate matter or other air contaminants, resulting from the combustion of fuel, from any fuel burning equipment or from any stack connected thereto, in quantities exceeding the limits specified in Table 1 for the size of equipment involved is prohibited. The limitations, subject to linear interpolation, are to be conformed to when the fuel burning equipment is operating at the maximum design heat input rating. The heat input rating of any unit discharging to a single stack shall be the maximum design input rating, including both heat available from burning of fuel and any sensible heat from materials introduced into the combustion zone at temperatures above the ambient air temperature. When two or more fuel burning units are connected to a single stack, the combined fuel burning capacity of all units connected to the stack denotes the size of equipment in terms of BTU input for establishing the maximum allowable emission. When one fuel burning unit is connected to two or more stacks, the heat input of the equipment shall be the criterion for the maximum allowable total emission from all stacks combined.

Tests to determine compliance with this rule shall be conducted as provided in Sections 10 and 14 of this regulation.

Rule 8.4. Fuel burning equipment located in dwellings designed for not more than two families are exempt from the operation of Rule 8.

TABLE 1

Emission Standards For Fuel Burning Equipment

Equipment Rating (10^6 BTU/Hr)	Allowable Particulate Emission ($Lbs/10^6$ BTU/Hr) Schedule 1	Schedule 2	Schedule 3
0-10.0	.60	.60	.60
50.0	.46	.40	.25
100.0	.40	.33	.17
250.0	.36	.26	.10
500.0	.30	.22	.10
1,000.0	.27	.18	.10
2,000.0	.245	.15	.10
5,000.0	.210	.12	.10
7,500.0	.200	.11	.10
10,000.0	.185	.10	,10

Determine intermediate values by linear interpolation.

Rule 9 — Regulation of Visible Emissions from Internal Combustion Engines

Rule 9.1. No person shall cause, suffer, allow or permit the emission of visible air contaminants from any spark ignition engine of ten (10) horsepower or more

a. For a period of time exceeding ten (10) seconds, or

b. After the vehicle has moved 100 yards or more from its initial starting point.

Rule 9.2. No person shall cause, suffer, allow or permit the visible emission of air contaminants from a diesel type engine for a period of more than sixty (60) consecutive seconds in excess of number one (1) of the Ringelmann Chart, or in excess of an opacity of twenty (20) percent.

Rule 9.3. Responsibility for compliance with Rules 9.1 and 9.2. applies to the owner, the registered owner, the lessee and the operator, individually, and each shall be jointly or severally liable for violation of these Rules and subject to the fines and penalties of this regulation.

Rule 9.4. Testing of vehicles to determine compliance with Rules 9.1 and 9.2, shall become a part of and be included in the semi-annual safety lane inspection required by Section 24.317 of the Chattagoona City Code (Code 1968).

Rule 9.5. Testing in the outdoor atmosphere of internal combustion engines which have been or are to be repaired will be allowed if such tests are performed on the premises of the repairing facility.

Rule 9.6. No motor vehicle which is equipped with a pollution control device shall be modified or altered in any manner which will decrease its efficiency or effectiveness in the control of air pollution.

Rule 9.7. No diesel engine which supplies motive power to a vehicle shall be allowed to idle more than five (5) consecutive minutes when the vehicle is not in motion, except when the vehicle is forced to remain motionless because of traffic conditions over which the operator has no control; provided, however, that any diesel engine which supplies motive power to a truck or locomotive shall be allowed to idle for more than five (5) consecutive minutes when it is at a distance in excess of five hundred (500) feet from the nearest residential, recreational, institutional, retail sales, hotel or educational premises.

Rule 10 — Process Emission Regulations

Except as provided by, and to the extent permitted under Rule 5 and Rule 7 of Section 9 of this regulation, all installations or operations from which any air contaminant is, or may be, emitted or permitted to escape into the open air shall comply with the provisions of this rule.

Rule 10.1. On or before the 1st day of January, 1971, the owner, operator of, or other person responsible for an existing installation or operation shall file with the Director, for each source of emission, complete plans and schedule for compliance with the provisions of this regulation.

Rule 10.2. No person shall cause, suffer, allow or permit emission from any new air contaminant source in excess of that provided in Schedule 1 of Table 2 of Rule 10.

Rule 10.3. No person shall cause, suffer, allow or permit emission from any existing air contaminant source in excess of that provided in Schedule 2 of Table 2 of Rule 10 on or after the 14th day of October, 1972.

Rule 10.4. On and after the 1st day of July, 1974, the provisions of Rule 10.3 shall no longer be applicable and all air contaminant sources shall be construed as new sources for the purpose of Rule 10 of this regulation and shall be required to meet those standards set forth in Rule 10.2 stated above.

Rule 10.5. Notwithstanding the provisions of Rule 10.2. and Rule 10.4., no person shall cause, suffer, allow or permit emission from any air contaminant source built or installed on and after the 1st day of January, 1973, in excess of that provided in Schedule 3 of Table 2 of Rule 10.

Rule 10.6. Tests to determine compliance with this Rule 10 shall be conducted as provided in Sections 10 and 14 of this regulation; provided, however, that compliance with this Rule 10 does not exempt such persons from the compliance with any other rule or section of this regulation applicable to emissions.

TABLE 2

Particulate Emission Standards For Process Equipment

Input Process Weight (Lb/Hr)	Output Emission Installation Type (Lb/Hr)		
	Schedule 1	Schedule 2	Schedule 3
100	0.551	0.551	0.55
200	0.887	0.887	0.86
400	1.40	1.40	1.32
600	1.83	1.83	1.70
800	2.22	2.48	2.03
1,000	2.58	2.91	2.34
1,500	3.38	3.98	3.00
2,000	4.10	5.00	3.59
2,500	4.76	6.00	4.12
3,000	5.38	6.92	4.62
3,500	5.96	7.85	5.08
4,000	6.52	8.80	5.52
5,000	7.58	10.2	6.34
6,000	8.56	12.0	7.09
7,000	9.49	13.4	7.81
8,000	10.4	14.8	8.50
9,000	11.2	16.1	9.10
10,000	12.0	17.9	9.70
12,000	13.6	20.3	10.90
16,000	16.5	25.7	13.0
18,000	17.9	28.0	14.0
20,000	19.2	30.6	15.0
30,000	25.2	42.0	19.2
40,000	30.5	47.0	23.0
50,000	35.4	48.0	26.4
60,000	40.0	49.0	29.6
70,000	41.3	49.6	30.6
80,000	42.5	50.0	31.2
90,000	43.6	50.3	31.8
100,000	44.6	51.0	32.4
120,000	46.3	52.0	33.3
140,000	47.8	53.0	34.2
160,000	49.0	54.6	34.9
200,000	51.2	55.5	36.1
1,000,000	69.0	69.0	46.7

Determine intermediate values by linear interpolation.

Rule 11 — Regulation of Transporting and Material Handling in Open Air

Rule 11.1. No person shall cause or permit the handling, processing, transporting or storage of any material in the open air in a manner which allows or may allow particulate matter to become airborne which exceeds Ringelmann 1 or its equivalent opacity.

Rule 11.2. No person shall cause or permit a buidling or its appurtenances, a road, a driveway, a parking area, or an open area to be constructed, used, repaired or demolished without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. The Director may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including but not limited to paving or cleaning of roads, driveways, and parking areas; by the application of dust-free surfaces; by the application of water; and by the planting and maintenance of vegetative ground cover.

Rule 12 — Regulation of Odors in the Ambient Air

Rule 12.1. An odor will be deemed "objectionable" when 15 percent or more of the people exposed to it believe it to be objectionable in usual places of occupancy based on a sample size of at least 20 people or if fewer than 20 people are exposed, when a minimum of three people exposed to it believe it to be objectionable.

Rule 12.2. No person shall cause, suffer, allow or permit emission such as to cause an "objectionable" odor on or adjacent to residential, recreational, institutional, retail sales, hotel or educational premises.

Rule 12.3. No person shall cause, suffer, allow or permit the emission as to cause an "objectionable" odor on or adjacent to premises other than those listed in Rule 12.2 unless air containing such odorous matter is diluted with four or more volumes of odor-free air.

Rule 13 — Regulation of Sulfur Oxides

Rule 13.1. No person shall cause, suffer, allow or permit the emission of gas containing sulfur dioxide from any new source in excess of 500 ppm (volume).

Rule 13.2. No person shall cause, suffer, allow or permit the emission of gas containing sulfur dioxide from any existing source in excess of 2,000 ppm (volume).

Rule 13.3. On and after the 1st day of July, 1974, the provisions of Rule 13.2 above shall no longer be applicable and all air contaminant sources shall be construed as new sources for the purpose of Rule 13 of this regulation and shall be required to meet those standards set forth in Rule 13.1 above stated.

Rule 13.4. Fuel burning equipment exhaust gas volume is to be corrected to thirty (30) percent excess air for purposes of determining sulfur dioxide concentrations.

Rule 13.5. All sampling of exhaust gases from any source of sulfur dioxide and all analyses of samples to determine the amount of sulfur dioxide in exhaust gases shall be conducted as specified by techniques promulgated by the Board.

Rule 13.6. For the purposes of this Rule 13, all sulfur present in gaseous compounds and containing oxygen shall be deemed to be present as sulfur dioxide.

Rule 13.7. Compliance with this Rule 13 shall not relieve a person from requirements of Rule 12 or from the requirements of any other rules or provisions of this regulation.

Rule 14 — Nuisances

Rule 14.1. No person shall cause, suffer, allow or permit or fail to take reasonable steps to abate or terminate the discharge from any source whatsoever, of air contaminants or other material which shall cause injury, detriment, nuisance, or annoyance of the public or which endanger the comfort, repose, health or safety of the public or which cause or have a tendency to cause injury or damage to business or property.

Rule 14.2. No person shall cause, suffer, allow or permit or fail to take reasonable steps to abate or terminate the discharge from any source whatsoever air contaminants or water or steam or a combination of such which cause, or combine with natural elements to cause, the reduction of visibility across any road or thoroughfare to such an extend as to cause a hazard.

Rule 14.3. Nothing in any other section of this regulation relating to regulation of emission or pollutants shall in any manner be construed as authorizing or legalizing the creation or maintenance of a nuisance as described in this Rule 14 of this regulation or as may otherwise be deemed by law to be a nuisance.

SECTION 10

Installation Permit, Temporary Operating Permit, and Certificate of Operation

Section 10-A. Installation Permit

1. No person shall construct, install, reconstruct or alter any fuel burning, refuse burning, process or control equipment until an application, together with plans and specifications applicable to the work on the equip-

ment and structures or buildings used in connection therewith, has been filed by the person or his agent in the office of, and has been approved by, the Director and an Installation Permit issued by him for such construction, installation or alteration.

2. The plans and specifications, submitted pursuant to Paragraph A-1 of this section; shall show the form and dimensions of the process, fuel burning, refuse burning, or control equipment, together with the description and dimensions of the building or part thereof in which such process, fuel burning, refuse burning, or control equipment is to be located; the character of the fuel to be used; the maximum quantity of such fuel to be burned per hour; the kind and amount of basic materials process; the expected air contaminant emission rate; the operating requirements; contaminant concentration; gas volume, and gas temperature at the emission point; the location and elevation of the emission point relative to nearby structures, window openings, etc.; a flow diagram showing the equipment under consideration and its relationship to other processes, if any, and a general description of these processes; any other reasonable and pertinent information that may be required by the Director. The plans and specifications shall show that the room or premises in which fuel, refuse burning or process equipment is to be located is provided with adequate ventilation to provide sufficient air for the process and for the safety of people.

3. Maintenance or repair or physical transfer of any installed equipment within the premises of original installation which does not change the capacity of such process or control equipment, and which does not involve any change in the method of processing or increase the amount or alter the characteristics of the emission of air pollutant therefrom may be made without an Installation Permit. The physical transfer of any installed equipment to a location other than within the premises of original installation shall cause said equipment to be reclassified as "new equipment."

4. The requirement for filing plans and specifications involving the installation, erection, construction, reconstruction, alteration, or repair of, or addition to, any fuel or refuse burning equipment or process equipment or the building of pilot plants or process, to be used or to become part of a secret process is hereby suspended upon the filing with the Bureau, in lieu of the filing of plans and specifications, of an affidavit of a responsible person to the effect that such equipment or process is to be so used. Such person shall be required to furnish bond in favor of the County and in an amount to be set by the Board. Said bond to be conditioned upon compliance with this regulation and to provide for forfeiture upon proof of a violation of any provision of this regulation by the subject secret process; provided that proof of a violation of any provision of this regulation shall prima facie create a presumption of fact that said violation was a violation by the subject secret process. Provided, however, the type and emission rate of each contaminant shall in no event be deemed to be secret information subject to the protection of the provisions of

this paragraph; and provided further that the person claiming the protection of this paragraph shall institute and conduct a self-monitoring system and shall report the results thereof when and as required by the Director. The suspension of the filing of such plans for the secret process from complying with all other provisions of this regulation.

5. No construction, installation, reconstruction, or alteration shall be made which is not in accordance with the plans, specifications, and other pertinent information upon which the Installation Permit was issued without the written approval of the Director.

6. Violation of the Installation Permit shall be sufficient for the Director to stop all work, and he is hereby authorized to seal the installation. No further work shall be done until the Director is assured that the condition in question will be corrected and that the work will proceed in accordance with the Installation Permit.

7. If work is begun in violation of Installation Permit requirements, the Director may grant such permit, conditional upon removal of all faulty work. The Installation Permit fee shall be doubled in such cases. Provided, however, that this provisions shall not be construed as authorizing such violation.

8. If the work authorized under the Installation Permit is not started within one year of the date of the Installation Permit, the permit shall become void and all fees shall be forfeited, unless an extension of time is warranted and granted by the Director.

9. An emergency repair other than as specified in sub-section A-3 of this Section may be made prior to the application of an Installation Permit if serious consequences may result if the repair were deferred. When such repair is made, the person concerned shall notify the Director on the first business day after the emergency occurred and file an application for an Installation Permit if directed to do so by the Director.

10. Upon review of the required plans and specifications, an application shall be approved or rejected within a reasonable time after it is filed in the office of the Director. Upon the approval of the application and upon the payment of the prescribed fees, the Director shall issue an Installation Permit. Issuance of an Installation Permit will not be construed to indicate compliance with the requirements of the Building Code of Hamilton County or any other regulations of Hamilton County.

10(a). The permits contemplated by this Section 10 shall be for the control of pollution. This Section 10 shall apply to fuel burning equipment, refuse burning equipment, process equipment which causes emission, or any other equipment that tends to pollute the air, and the pollution control equipment, but nothing contained herein shall require application for, or issuance of, a permit for any overall manufacturing process provided permits are applied for, and obtained, for the foregoing items of equipment in the overall process.

11. Any person, upon receiving a rejection of an application for an Installation Permit, may modify his plans and specifications to meet the requirements of this regulation and resubmit them to the Bureau. This procedure must be followed until approval of the application is granted.

12. The Director may reject any application for an Installation Permit and require further tests or information if:

a. In his opinion, the proposed construction, installation or alteration or the anticipated emission of air contaminants does not meet the provisions of this regulation.

b. The proposed emission control equipment is of a type reasonably anticipated by the Director, not to be adequate for its intended usage.

13. No building permit shall be issued to any person by the Building Inspector for the erection, construction, reconstruction, alteration, addition or major repair of any structure when the plans or specifications for such structure include any fuel or refuse burning equipment or process equipment until such plans and specifications have been submitted to the Director and an Installation Permit issued.

14. The Bureau shall have the right to enter the premises and inspect the installation in progress at any reasonable time.

15. Fees (Installation Permit)

The following fee schedule shall apply to the issuance of all Installation Permits with the exception of those solely for control equipment, for which no fee is required. Said fees shall be collected by the Bureau and remitted to the Fiscal Agent of the Board

SCHEDULE 10-A—I. FUEL BURNING EQUIPMENT

Fees shall be assessed based upon the design fuel consumption per unit as expressed in thousands of British Thermal Units (BTU) per hour, using gross heating values of the fuel.

1000 BTU Per Hour	Fee
Up to 150	$10.00
150 to 399	15.00
400 to 649	25.00
650 to 1499	35.00
1500 to 2499	45.00
2500 to 4999	55.00
5000 to 14999	65.00
15000 or greater	75.00 + $10.00 for each additional 1000

(NOTE: One boiler horsepower is equivalent to 33,472 BTU per hour)

SCHEDULE 10-A—II. INCINERATORS

Fees shall be assessed based upon the manufacturer's rated input as expressed in pounds per hour.

INPUT—Pounds Per Hour	Fee
Up to 200	$10.00
200 to 599	20.00
600 to 999	30.00
1000 to 1999	40.00
2000 to 4999	50.00
5000 to 9999	60.00
10000 and greater	70.00 + $10.00 for each additional 50 T/24 Hr.

SCHEDULE 10-A—III. PROCESS EQUIPEMENT

Fees shall be assessed based upon the process weight per hour as expressed in pounds per hour.

Input Process Weight-Pounds Per Hour	Fee
Up to 999	$ 20.00
1000 to 9,999	35.00
10,000 to 49,999	50.00
50,000 to 149,999	65.00
150,000 to 499,999	80.00
500,000 to 999,999	95.00
1,000,000 or greater	100.00

(NOTE: Examples of this type of equipment include: chemical, processing equipment, crushing, grinding or milling equipment, metal forming equipment.)

SCHEDULE 10-A—IV. ODOR PRODUCING EQUIPMENT

A fee of $15.00 per unit shall be assessed.

(NOTE: Examples of this type include: tar and asphalt kettles; road material treating plans, varnish and paint heating kettles, rendering kettles).

SCHEDULE 10-A—V. MISCELLANEOUS

Any article, machine, equipment or other contrivance which is not included in the preceding schedules shall be assessed a fee of $15.00 per unit.

Section 10-B. Temporary Operating Permit

1. No person shall operate or cause to be operated any new or altered fuel burning, refuse burning or process or control equipment or any equipment pertaining thereto for which an Installation Permit was required or was issued until a Temporary Operating Permit is issued by the Director. The person responsible for the installation, construction or alteration of any fuel-burning, refuse-burning or process or control equipment for which Installation Permit is required, shall give notification to the Director when the work is completed and ready for final inspection. The Director is hereby authorized to seal the equipment in operation for which Temporary Operating Permit was not obtained as required in this regulation.

This notification to the Director shall include:

a. The equipment or control apparatus in consideration.

b. Any control equipment connected or attached to, or serving, or served by the unit unless up to date information is on file with the Bureau.

c. Any reasonable additional information, evidence or documentation to show that the completed work is in accord with the original plans as stipulated in Section 10-A.

2. Failure to operate successfully under test within the limitations and requirements of the regulation under a Temporary Operating Permit shall constitute sufficient grounds for ordering changes in the installation before a Certificate of Operation can be granted. Responsibility for proof, and all expenses incurred in running the tests under the Temporary Operating Permit shall be borne by the person owning, operating or in charge of control of such equipment, or their agents. The Director may, if in his opinion the nature of the installation in consideration of the use to which it is to be put so justified, waive the demonstration or test operation under the Temporary Operating Permit, but such waiver shall in no manner provide immunity from prosecution for violations of the requirements of the regulation.

3. The Bureau shall have the right to enter the owner's premises to inspect the installation and observe any test or operation of the equipment for which a Temporary Operating Permit was issued.

4. A Temporary Operating Permit shall be valid for not in excess of six (6) months after the date of issue. Extensions of time not in excess of three (3) months may be granted by the Director. Upon the expiration of such Permit or of such extensions as may be granted, application for a Certificate of Operation must be made as a hereinafter provided.

5. A fee of $15.00 will be assessed for the issuance of each Temporary Operating Permit, and for each extension thereof should an extension be

granted, which fee shall be collected by the Bureau and remitted to the Fiscal Agent of the Board. No fee shall be required for permits upon control equipment.

Section 10-C. Certificate of Operation

1. After the Temporary Operating Permit has been issued and it is demonstrated to the satisfaction of the Director that the fuel-burning, refuse-burning or process or control equipment can be operated in compliance with this regulation, a Certificate of Operation shall be issued by the Director. Said Certificate of Operation shall be kept on file and made available to Bureau representatives upon request. The Certificate of Operation shall properly identify the equipment to which it pertains and shall specify the class of fuel, type of raw material used, if any, for which the equipment and appurtenances have been designed or which has been successfully used in the operating test. The owner or his agent shall be responsible for notifying the Director that equipment for which a Temporary Operating Permit has been issued has been tested and is ready for permanent operation. With such notification the owner shall submit to the Director test and operation data as required by the Director obtained during the temporary operating period for use ad evidence that the equipment will operate in compliance with all provisions of the regulation.

The Certificate of Operation shall be issued for a one (1) year period and shall be renewable annually. Application for renewal of the Certificate of Operation shall be made in writing upon forms furnished by the Bureau and shall be made not less than sixty (60) days prior to expiration of the Certificate for which renewal is sought. Disclosures of information, tests and other prerequistes to the issue of an Installation Permit, Temporary Operating Permit or Original Certificate of Operation may be required by the Director prior to issue of a renewal Certificate of Operation.

2. Sampling and Testing

a. Authorization. The Director is authorized to conduct or cause to be conducted by the owner any test or tests of any new or installed equipment, the operation of which, in his opinion, can be expected to result in emissions in excess of the limitations in this regulation, or when, in his judgement, there is evidence that any such equipment is exceeding any emission limitation prescribed in said regulation.

The Director may, at his discretion, accept certification tests submitted by the owner if, in his judgement, these tests are sufficient to determine that the limitations of this regulation will not be exceeded.

The Director and/or a representative of the Director shall be permitted to witness any testing.

b. Test Openings, Scaffolding and Facilities. When test(s) of existing equipment are deemed necessary by the Director and the Director elects to conduct such test himself or have his representative conduct such test, the owner shall, at his expense, provide test openings, access scaffolding and other pertinent facilities as requested by the Director. Such facilities may be either permanent or temporary, at the discretion of the owner for their provisions; and shall be suitable for determination consistent with the emission limits established in this regulation; and shall comply with all laws and regulations concerning safe construction of, and safe practice in connection with such facilities; provided, however, that if the owner elects to provide temporary facilities then in the event future tests are desired by the Director the owner shall at his expense provide further facilities when requested by the Director.

c. Departmental Test. Nothing in these rules and regulations concerning tests conducted by and paid for by any person or his authorized agent shall be deemed to abridge the rights of the Director or his representative to conduct separate or additional tests if he so desires on behalf of the Bureau of Air Pollution Control and at the department's expense, except as in the section of this regulation covering test openings scaffolding and facilities.

d. Cost of Test. The owner is liable for the cost of initial tests of any equipment and/or tests resulting from any change in equipment, methods or conditions or operation. Initial tests will include all testing performed for the purpose of demonstrating compliance with the regulation for permit to install and/or operate. If the results of further tests performed by the Bureau show the owner to be a violator, the owner is responsible for paying all attendant cost for conducting such test. If said test(s) does not substantiate a violation of this regulation, then the Bureau shall be responsible for paying all attendant costs for conducting said test(s) except those costs occurring for test openings, scaffolding and facilities. If the owner so elects to conduct his own test after any change in equipment, method or condition of operation, the owner, so electing shall pay for the test(s) irrespective of their outcome. The data obtained during any such testing shall be made available to the Director and the owner.

e. Methods and Procedures. Sampling and analytical determinations to ascertain compliance with these rules shall be made in accordance with methods and procedures acceptable to the Director of the Air Pollution Control Bureau.

3. When a Certificate of Operation is refused, suspended or revoked, the Director is authorized to seal the process or control equipment until the owner shall have complied with the provisions of this regulation, and no person shall operate any equipment which requires a Certificate of Operation until such Certificate shall have been obtained. No person shall cause, suffer, allow or permit the operation of any equipment which ~~require~~s a Certificate of Operation until such Certificate shall have been obtained. No person shall cause, suffer, allow or permit the operation

of any equipment which requires a Certificate of Operation if a previously issued Certificate of Operation has been suspended or revoked.

4. The Director shall have authority to require owners, operators or persons in responible charge of stationary sources to install, maintain and use emission monitoring devices and to make periodic reports to the Director on the nature and amounts of emissions from such stationary sources. The Director shall have authority to make such data available to the public as reported and as correlated with any applicable emission standars or limitations.

5. Fees.

The following fee schedule shall apply to the issuance of Certificates of Operation. Said fees shall be collected by the Bureau and remitted to the Fiscal Agent of the Board. Fees shall be assessed on categories identical to those in the Installation Permit Section of this regulation.

SCHEDULE 10-C-I. FUEL BURNING EQUIPMENT

1000 BTU Per Hour	Fee
Up to 150	$25.00
150 to 399	35.00
400 to 649	45.00
650 to 1499	55.00
1500 to 2499	65.00
2500 to 4999	75.00
5000 to 14,999	85.00
15,000 and greater	100.00

SCHEDULE 10-C-II. INCINERATORS

Input Pounds Per Hour	Fee
Up to 200	$35.00
200 to 599	40.00
600 to 999	45.00
1,000 to 1,999	50.00
2,000 to 4,999	55.00
5,000 to 9,999	60.00
10,000 and greater	65.00 + $5.00 For each additional 100

SCHEDULE 10-C-III. PROCESS EQUIPMENT

Input Process Weight-Pounds Per Hour	Fee
Up to 999	$45.00
1,000 to 9,999	60.00
10,000 to 49,999	75.00
50,000 to 149,999	90.00
150,000 and greater	100.00

SCHEDULE 10-C-IV. ODOR PRODUCING EQUIPMENT

Each unit shall be assessed a fee of $65.00.

SCHEDULE 10-C-V. MISCELLANEOUS

Each unit shall be assessed a fee of $65.00.

FEES FOR RENEWAL OF OPERATING CERTIFICATE

SCHEDULE 10-C-VI. FUEL BURNING EQUIPMENT

1000 BTU Per Hour	Fee
Up to 150	$10.00
150 to 399	15.00
400 to 649	20.00
650 to 1,499	25.00
1,500 to 2,499	30.00
2,500 to 4,999	35.00
5,000 to 14,999	40.00
15,000 and greater	45.00

SCHEDULE 10-C-VII. INCINERATORS

Input—Pounds Per Hour	Fee
Up to 200	$ 5.00
200 to 599	10.00
600 to 999	15.00
1,000 to 1,999	20.00
2,000 to 4,999	25.00
5,000 to 9,999	30.00
10,000 and greater	35.00

SCHEDULE 10-C-VIII. PROCESS EQUIPMENT

Input Process Weight-Pounds Per Hour	Fee
Up to 999	$25.00
1,000 to 9,999	35.00
10,000 to 49,999	45.00
50,000 to 149,999	55.00
150,000 to 499,999	65.00
500,000 to 999,999	75.00
1,000,000 and greater	85.00

SCHEDULE 10-C-IX. ODOR PRODUCING EQUIPMENT

Each unit shall be assessed a fee of $15.00.

SCHEDULE 10-C-X. MISCELLANEOUS

Each unit shall be assessed a fee of $15.00.

Section 10-D. (Reserved).

Section 10-E. General Requirements

1. On and after the 14th day of October, 1972, no person shall operate or cause to be operated any existing fuel-burning, refuse-burning, or process or control equipment or any equipment pertaining thereto which is subject to the provisions of this regulation unless and until a Certificate of Operation or an annual renewal thereof is issued to and validly outstanding for said equipment. Said Certificate of Operation shall be kept posted at or near the installation for which it was issued. Application for a Certificate of Operation to be issued to existing equipment shall be made not later than the 1st day of July, 1972, and there shall be filed with and in support of said application all documents, information, reports, and records and other prerequisties which are required by this section to be filed with and in support of an application for Installation Permits, Temporary Operating Permits and Certificates of Operation as hereinabove set forth.

2. The issuance by the Director of any Installation Permit, Temporary Operating Permit, Certificate of Operation, or renewal thereof, shall not be held to exempt the person to whom the permit or certificate was issued or the person who is in possession of the same, or any other person subject to this regulation from prosecution for any violation of any provisions of this regulation, or from action under any other provisions of this regulation.

3. No person shall cause, suffer, allow or permit the operation of any equipment or installation subject to the provisions of this regulation in violation of an authorized seal of said equipment or installation.

4. The provisions of this Section 10 shall not apply to fuel burning equipment used exclusively for heating the dwellings of less than three families, nor to equipment for burning gas, or number 1 or number 2 fuel oil, nor to internal combustion engines.

5. Duplicate permits may be issued by the Director if notification is made by the person responsible within ten (10) days after the loss or destruction of the original certificate. A fee of $3.00 shall be charged for issuing a duplicate permit.

6. The schedules of fees for permits for Fuel Burning Equipment, Incinerators and Crematories, and Process Equipment are to be based upon rated design input of said equipment or the maximum operational input, whichever is larger.

7. In no event shall any fee for Installation Permit, Temporary Operating Permit or Certificate of Operation exceed the amount of One Hundred ($100.00) Dollars.

8. Any equipment which can be classified as a minor pollution source shall be exempted from the requirements of Sections 10-A and 10-B, but must have a Certificate of Operation. No person shall operate any such equipment until an application for a Certificate of Operation, together with plans and specifications of the equipment, has been filed by such person and a Certificate of Operation has been issued by the Director. An annual fee of $5.00 shall be assessed for the issuance of a Certificate of Operation upon such equipment.

9. Unless otherwise specified in this regulation all measurements or calculations of stack emission concentrations shall be corrected to the minimum amounts of air and water vapor which are necessary for the process operation. Such measurements or calculations shall be corrected to a standard temperature of seventy (70) degrees Fahrenheit and a standard pressure of seven hundred sixty (760) millimeters of mercury. All water vapor shall be treated as a perfect gas.

SECTION 11

Charges for Technical Reports

Information, circulars, reports of technical work, and other reports prepared by the Air Polltuion Control Bureau when supplied to other governmental agencies or individuals or groups requesting copies of the same may be charged for by the Bureau in a sum not to exceed the costs of preparation and distribution of such documents.

SECTION 12

Records

Section 12-A. The Director shall keep in the office of the Bureau all applications required under the regulation, and a complete record thereof, including a record of all permits and certificates issued. The Director shall keep a record on all official business of the Bureau and complaints and generally of the work done by the Bureau. All such records shall be open for inspection by the public at all reasonable times; provided, however, that such records or other information of a confidential nature voluntarily furnished pursuant to Section 8 shall receive the protection provided by Section 8.

Section 12-B. The Director may at any time require the person responsible for a source of emission subject to the provisions of this regulation to record, maintain and keep records relative to the operation of the source and the emissions from the source, and may further request from such person such information, analyses, or specifications as will disclose the nature, extent, quantity and debris of air contaminants as may be emitted by such source.

SECTION 13

Entry and Search Warrants

In the performance of their duties, the Director and other employees of the Bureau are hereby authorized to enter upon and into premises or buildings with permission of the owner or occupant thereof to make inspection of the premises or building, to collect and preserve evidence of all facts of violation of these regulations, or to perform any duty imposed upon them by this regulation.

Alternatively, the Director or other employees of the Bureau or any other law enforcement officer may obtain a search warrant from the State Court of Hamilton County, Tennessee, as other search warrants are issued upon a showing of probable cause to believe that the provisions of this regulation or the rules and regulations thereof have been or are being violated, and may thereafter enter upon or into the premises or buildings and obtain, collect and preserve evidence or perform any duty imposed upon them by this regulation.

SECTION 14

General Provisions

Section 14-A. Any owner, operator or other person responsible for any permanently discontinued or dismantled equipment coming under the jurisdication of this regulation shall report to the Bureau within thirty (30) days the permanent discontinuance or dismantlement of such equipment, and to surrender any outstanding permit or the certificate of operation thereon.

Section 14-B. Upset conditions, breakdowns, or scheduled maintenance. Emissions exceeding any of the limits established in this regulation as a direct result of upset conditions in or breakdown or any air pollution control equipment or related operating equipment, as a direct result of the shutdown of such equipment for scheduled maintenance, shall not be deemed to be in violation of the rules establishing such limits, provided all the requirements of this Section 14 are met.

Section 14-C. For scheduled maintenance, a report shall be submitted at least 24 hours prior to shutdown, and for upset conditions or breakdown, a report shall in any case be made to the Bureau not later than the first business day after the occurrance.

Section 14-D. The owner, operator or other person responsible for emission caused by upset conditions or breakdowns shall, with all practicable speed, initiate and complete appropriate reasonable action to correct the conditions causing such emissions to exceed such limits; to reduce the frequency of occurrence of such conditions; to minimize the amount by which said limits are exceeded; and to minimize the length of time for which said limits are exceeded; and shall, upon request of the Director, submit to him a full report of such scheduling and nature of the actions to be taken pursuant to this section.

Section 14-E. Separation of Emissions. If air contaminants from a single source are emitted through two or more emission points, the total emitted quantity of any contaminant, limited in this regulation, cannot exceed the quantity which would be the allowable emission through a single emission point, and the total emitted quantity of any such air contaminant shall be taken as the product of the highest concentration measured in any of the emission points and the exhaust gas volume through all emission points, unless the person responsible for the source proves the correct total emitted quantity to be within the limits established by this regulation.

Section 14-F. Combination of contaminants prior to emission. If air contaminants from two or more sources are combined prior to emission and there are adequate and reliable means reasonably susceptible to confirmation and use by the Director for establishing a separation of the components of the combined emission to indicate the nature, extent, quantity and degree of emission arising from each such source, this regulation shall apply to each source separately.

Section 14-G. Inseparable combination of contaminants prior to emission. If air contaminants from two or more sources are combined prior to emission and combined emissions cannot be separated according to the requirements of Section 14-F, this regulation shall be applied to the combined emission as if it originated in a single source subject to the most stringent limitations and requirements placed by this regulation on any of the sources whose air contaminants are so combined.

SECTION 15

Registration of Equipment

The owner, operator or user of all existing equipment shall register same with the Director of the Bureau of Air Pollution Control within ninety (90) days after the effective date of this regulation.

SECTION 16

DEFINITIONS

In the interpretation and enforcement of this regulation, the following definitions shall apply:

1. Air contaminant—Any smoke, soot, fly ash, dust, cinders, dirt, noxious or obnoxious acids, fumes, oxides, gases, vapors, odors, toxic or radioactive substance, waste, particulate, solid, liquid or gaseous matter, or any other materials in the outdoor atmosphere but excluding uncombined water.

2. Air flow permeability—The volumetric rate of air flow in cfm produced by a pressure decrease of 0.5 in. w.g. across a new clean filtering fabric, divided by the area of the fabric in ft.^{2}. The test air stream is maintained at nominal atmospheric pressure and temperature.

3. Air pollution—The presence in the outdoor atmosphere of one or more air contaminants or combinations thereof in such quantities and of such duration that they are or may tend to be injurious to human, plant, or animal life or that interfere with the comfortable enjoyment of life or property or the conduct of business.

4. Asbestos—Any of six (6) naturally occurring hydrated mineral silicates: Actinolite, amosite, anthophyllite, chrysotile, crocidolite and tremolite.

5. Board—The Chattagoona-Hamilton County Air Pollution Control Board as recognized and/or created by this regulation.

6. Bureau—The Bureau of Air Pollution Control as recognized and/or established by this regulation.

7. Control equipment—Any item of equipment used to eliminate or reduce the emission of an air contaminant.

8. Controlled burning—Open burning conducted in such manner or with the aid of such special equipment that emissions are reduced.

9. Director—The Director of the Bureau.

10. Dry basis—The method of reporting coal analysis with moisture eliminated and remaining constituents recalculated to total 100 percent.

11. Dwelling unit—Any room or group of rooms located within a dwelling and forming a single habitable unit with facilities which are used or intended to be used for living, cooking, sleeping and eating.

12. Emission—A release into the outdoor atmosphere of air contaminants.

13. Emission point—That place where emission occurs.

14. Excess air—Air entering a combustion chamber in excess of the amount theoretically required to complete combustion of materials in the combustion chamber.

15. Existing—Things, such as equipment, machines, devices, articles, contrivances or installations which were in being before the 14th day of October 1969. If any such existing equipment, machine, device, article, contrivance or installation is altered, repaired or rebuilt so that potential air pollutant emission is increased, it shall be reclassified as "new", as defined in this regulation.

16. Fly ash—Particulate matter capable of being gas or air borne, consisting essentially of fused ash and/or burned or unburned materials resulting from combustion of fuel or refuse.

17. Fossil fuel—Coal, coke and liquid petroleum fuels other than gasoline, diesel fuels and kerosene.

18. Fuel burning equipment—Any equipment, device or contrivance used for the burning of any fuel (except refuse) and all appurtenances thereto, including ducts, breechings, fly ash collecting equipment, fuel feeding equipment, ash removal equipment, combustion controls, stacks, chimneys, etc., used for indirect heating in which the material being heated is not contacted by, and adds no substance to, the products of combustion. Such equipment includes, but is not limited to, that used for heating water to boiling; raising steam or superheating steam; heating air as in warm air furnaces; furnishing process heat that is conducted through process vessel walls; and furnishing process heat indirectly through its transfer by fluids.

19. Fugitive dust—Particulate matter emitted from any source other than a flue or stack.

20. Hand fired fuel burning equipment—Fuel burning equipment in which fresh fuel is manually introducted directly into the combustion chamber.

21. Incinerator—Refuse burning equipment as is hereinafter defined.

22. Internal combustion engine—Any engine of 10 horsepower as rated by S.A.E. methods or larger in which the combustion of gaseous, liquid or pulverized solid fuel takes place.

23. Mechanical fuel burning equipment—Fuel burning equipment incorporating means by which fuel is mechanically introduced into the combustion chamber.

24. Minor pollution source—Any fuel burning, refuse burning or process equipment which, without control equipment, would emit less than 1,000 pounds per year and less than ten (10) pounds per day of air contaminants, and which can otherwise be operated in' compliance with this regulation; provided that this definition shall not be applicable to sources of asbestos or beryllium emissions.

25. Multiple chamber incinerator—Any article, machine, equipment, contrivance, structure or part of a structure used to dispose of combustible refuse by burning, consisting of three or more refractory lined combustion furnaces in series, physically separated by refractory walls, interconnected by gas passage ports or ducts and employing adequate design parameters necessary for maximum combustion of the material to be burned.

26. New—Things, such as equipment, machines, devices, articles, contrivances or installations built or installed on or after the 14th day of October, 1969, and things or installations existing at said stated time which are later altered, repaired or rebuilt so that potential air pollutant emission is increased.

27. Opacity—That property of a substance tending to obscure vision and is measured in terms of per cent obscuration. As used in this regulation, it does not include obscuration of vision due to uncombined water droplets. The percentage opacity of a plume is numerically equal to twenty (20) times the Ringelmann number for a plume of black smoke having equivalent capacity of obscuration.

28. Open burning—Unconfined burning of combustible material where no equipment has been provided and used for control of air.

29. Particulate matter—Material other than uncombined water, which is suspended in air or other gases, in a finely divided form, as a liquid or solid.

30. Pathological waste—All, or parts of, organs, bones, muscles, other tissues and organic wastes of human or animal origin, laboratory cultures, and infective dressings and other similar material.

31. Person—Any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, governmental entity or any other legal entity, or their legal representatives, agents or assigns. The masculine gender shall include the feminine, the singular shall include the plural where indicated by the context.

32. Ppm—Parts per million by volume at a temperature of seventy (70) degrees Fahrenheit and at a pressure of seven hundred sixty (760) millimeters of mercury.

33. Process air—Air used principally as a function of the process.

34. Process emission—Any emission of an air contaminant to the ambient air other than that from fuel burning equipment, incinerator or open burning.

35. Process equipment—Any equipment, device or contrivance for changing any materials whatever or for storage or handling of any materials, the use or existence of which may cause any discharge of air contaminants into the open air but not including that equipment specifically defined as "Fuel Burning Equipment" or "Refuse Burning Equipment," in this regulation.

36. Process weight—The total weight of all materials introduced into any specific process which process may cause any discharge of air contaminant. Solid fuels charged will be considered as part of process weight, but liquid and gaseous fuels and combustion and process air will not. For a cyclical or batch operation, the process weight per hour will be derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle. For a continuous operation, the process weight per hour will be derived by dividing the process weight for a 24-hour period by 24.

37. Refuse burning equipment—Any equipment, device or contrivance used for the destruction of garbage and/or other conbustible wastes by burning, and all appurtenances thereto.

38. Ringelmann Smoke Chart—The Chart published in the U.S. Bureau of Mines Information Circular 7718, for use in measuring the shades, density or opacity of air contaminants arising from stacks and other sources.

39. Salvage operation—Any operation conducted in whole or in part for the salvage or reclaiming of any product or material.

40. Smoke—Small gas or airborne particles resulting from combustion operations and consisting of carbon and ash and other matter and present in sufficient quantity to be observable.

41. Source—Any equipment, process or operation which causes or contributes to cause emission at an emission point or any combination if items of equipment, processes or operations which when combined cause emission at an emission point.

42. Standard conditions—14.7 psia and a temperature of 70° F.

43. Surface-burning type of fuel burning equipment—Fuel burning equipment in which fresh fuel is fired on top of the hot fuel bed.

44. Suspended particulates—Particulate matter which will remain suspended in air for an appreciable period of time.

45. Volatile matter—Those constituents of coal given off as gas or vapor, as determined by methods described by the American Society for Testing Materials. (D271-33).

46. Washing—The process of purifying, cleaning or removing impurities from coal by mechanical processes, regardless of the cleaning medium used.

SECTION 17

Invalidation of Dual Standards

If a Court of competent jurisdiction should ever rule that having two (2) sets of standards for process equipment is invalid, then, in which event, the standards of emissions for new process equipment shall be the standard for all equipment.

SECTION 18

Right to File Abatement Suits

Nothing in this regulation shall be construed to impair the right of the County Council or the County Attorney to file appropriate suits to abate a nuisance involving air pollution or to prosecute anyone for creating a nuisance or allowing a nuisance to continue or permitting a nuisance to exist. The Board, with the approval of the County Attorney, may in the name of the County institute action to abate a nuisance.

SECTION 19

Penalties

a. Any person who violates any provision of this regulation, or any rule in force pursuant thereto, shall be fined as in misdemeanors. Each separate violation shall constitute a separate offense, and upon a continuing violation each hour of violation shall constitute a separate offense.

b. The liabilities which shall be imposed pursuant to any provisions of this regulation upon violation of the provisions of this regulation or any standard, or rule, hereunder, shall not be imposed due to any violation caused by an act of God, war, strike, riot, or other catastrophe.

c. Action pursuant to subsection a or b of this section shall not be a bar to enforcement of this regulation, or rules in force pursuant thereto and orders made pursuant to this regulation, by injunction or other appropriate, remedy, and the Board shall have power to institute and maintain in the name of this County any and all such enforcement proceedings.

SECTION 20

Limitation

This regulation shall not:

a. Abridge, limit, impair, create, enlarge, or otherwise affect substantively or procedurally the right of any person to damages or other relief on account of injury to persons or property and to maintain any action or other appropriate proceeding therefor.

b. Grant to the Board any jurisdiction or authority with respect to air contamination existing solely within commerical and industrial plants, works, or shops.

c. Affect the relations between employers and employees with respect to or arising out of any condition of air contaminantion or air pollution.

d. Supersede or limit the applicability of any law or regulation relating to sanitation, industrial health, or safety.

SECTION 21

Severability

If any section, subsection, sentence, or clause of this regulation should become adjudged invalid, such adjudication shall not affect the validity of the regulations as a whole or of any section, subsection, sentence, or clause hereof not adjudged invalid.

KNOX COUNTY AIR POLLUTION CONTROL REGULATIONS

12.0 Introduction

These regulations are intended to implement provisions of Private Chapter No. 37, which is the Private Act; passed on March 20, 1969, by the Tennessee General Assembly for Knox County, to formulate and enforce air pollution control and to adopt rules and regulations prescribing standards and procedures for carrying out such program and declaring any violation of such rules and regulations to be a misdemeanor.

These regulations are intended to implement provisions of the Air Pollution Control Act, Private Chapter No. 37 and the Tennessee Air Pollution Control Regulations that were adopted by the Tennessee Air Pollution Control Board on January 25, 1972, and became effective on April 3, 1972.

These regulations are based upon the premise that the basic and foremost function of the air is to sustain life and that air in its purest state is best suited for this need. It is intended that these regulations assist in maintaining an equitable balance between benefits of clean air and the economic cost of achieving clean air. More specifically, it is intended that these regulations define ambient air quality standards to be achieved and maintained and to provide for an orderly and equitable management of air quality by limiting emissions of air contaminants.

The ambient air is the air surrounding us. Ambient air quality standards determine the level of air quality in which we will live, and should be used as tools in achieving cleaner air not as a permit to degrade air quality. Polluted air can be a menace to all forms of life, and therefore, the disposal of wastes into the atmosphere must be controlled.

Ambient air quality standards are further intended to promote the most effective use of property. When the problems involved are esthetic in nature, an equitable economic balance must be achieved. When a health hazard is involved, there can be no compromise.

The requirements for limiting air borne contaminants must relate effects on men, animals, vegetation, and property to pollutant concentration at the point of contact. This, in turn, must be correlated with the source or sources. When multiple sources of a pollutant exist in an area, a limitation of the emission from each source must be exercised and the individual contribution to the total pollutant load in the area must be reduced to insure compliance with the ambient air quality standards. This is accomplished by the application of emission standards.

It is the purpose and intent of these regulations to establish contols on air contaminant emissions to the outdoor atmosphere so as to provide desirable levels of air quality in the ambient air.

An emission standard is a limit on the amount of air contaminant emitted from a source, and is intended to bring the ambient air quality levels within acceptable limits.

These regulations may be revised from time to time, as additional information on air contaminants and sources of air pollution are developed and evaluated, with the advice and consent of a majority of the Board after a Public Hearing.

13.0 Definitions

The following terms shall, unless the context indicates otherwise, have the following meanings:

13.1 Air Contaminant shall mean particulate matter, dust, fumes, gas, mist, smoke, vapor, or odor or any combination thereof.

13.2 Air Contaminant Source shall mean any and all sources of emission of air contaminants into the outdoor atmosphere, whether privately or publicly owned or operated, including stationary and mobile sources. Without limiting the generality of the foregoing, this terms includes all types of business, commercial, and industrial plants, works, shops, and stores, and heating and power plants, stations, buildings, and other structures of all types, including residences, apartment houses, office buildings, hotels,restaurants, schools, hospitals, churches, and other institutional buildings, automobiles, trucks, tractors, buses, and other motor vehicles, garages, vending and service locations, and stations, railroad locomotives, ships, boats, and other waterborne craft, portable fuel burning equipment, incinerators of all types, indoor and outdoor, and refuse dumps, and salvage operations.

13.3 Air Pollution shall mean the presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities and of such characteristics and duration as to be injurious, or tend to be injurious to human health and welfare, plant or animal life, or to property, or which unreasonably interferes with the enjoyment of life and property or the conduct of business.

13.4 ASTM shall mean the American Society for Testing Material.

13.5 Board shall mean the Air Pollution Control Board of Knox County unless the context clearly indicates otherwise.

13.6 Continuous Monitoring shall mean the sampling and analysis of air contaminants in a continuous or timed sequence, using techniques which will adequately reflect actual emission levels or concentrations of a continuous basis.

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13.7 Department shall mean the Department of Air Pollution Control of Knox County.

13.8 Director shall mean the Director of the Department of Air Pollution Control of Knox County.

13.9 Dust shall mean the solid particulate matter released into or carried in the air by natural forces, by any fuel-burning, combustion, process equipment or device, construction work, mechanical, or industrial processes.

13.10 Emissions shall mean the release of air contaminants into the outdoor atmosphere.

13.11 Equivalent Method shall mean any method of monitoring, sampling, and analyzing for an air contaminant which can be demonstrated to the Director's satisfaction to have a consistent relationship to the reference method.

13.12 Existing Source

A. Any source which was in being during any portion of the time period from October 1, 1969, up to and including July 1, 1972.

B. Any source constructed and operated under the regulations which became effective October 1, 1969, may be defined as an existing source only until June 30, 1975.

13.13 Fuel-Burning Equipment shall mean any equipment, device, or contrivance and all appurtences thereto, in which fuel is burned for the primary purpose of producing thermal energy and in which the material being heated is not contacted by, and adds no substance to, the products of combustion.

13.14 Fugitive Dust shall mean any visible emission, other than water droplets, issuing from any source other than through a stack.

13.15 Hand-Fired, Fuel-Burning Equipment shall mean fuel burning equipment in which fossil fuel is manually introduced into the combustion chamber or onto the fire.

13.16 Hazardous Air Contaminant shall mean any air contaminant which any cause or contribute to an increase in mortality or an increase in serious irreversible, or incapacitating, reversible illness and has been so designated by the Director.

13.17 Incinerator shall mean any equipment, device, or contrivance, or combustion device specifically designed for destruction by burning of solid, semi-solid, liquid, or gaseous combustible waste and from which the solid residues contain little or no combustible material.

13.18 Mechanical Fuel-Burning Equipment shall mean fuel-burning equipment incorporating means by which fuel is mechanically introduced into the combustion chamber.

13.19 Multiple Chamber Incinerator shall mean an incinerator consisting of three or more refractory lined combustion furnaces in a series physically separated by refractory walls interconnected by gas passage ports or ducts and employing adequate design parameters necessary for maximum combustion of the material to be burned.

13.20 New Source shall mean any source which results from equipment that is constructed after the effective date of these regulations.

13.21 Non-Process Emissions shall mean all emissions that are not defined in Section 13.27.

13.22 Opacity is the property of a substance causing to obscure vision and is measured in terms of percent obscuration. As used in these regulations it does not include obscuration of vision due to uncombined water droplets. The percentage opacity of a plume is numerically equal to twenty (20) times the Ringelmann number for a plume of black smoke having equivalent capacity of obsuration.

13.23 Odor shall mean that property of material that affects the sense of smell.

13.24 Open Burning shall mean the unconfined burning of combustible material where no equipment has been provided or used for the control of air for combustion.

13.25 Particulate Matter shall mean any material except uncombined water that exists in a finely divided form as a liquid or a solid at standard conditions.

13.26 Person shall mean any individual, owner, operator, firm, partnership, co-partnership, company, corporation, association, joint stock company, trust, State, political subdivision, or any other legal entity or their legal representative, agent, or assigns.

13.27 Process Emissions shall mean any emission of air contaminants to the outdoor atmosphere other than that from fuel-burning equipment, an incinerator, or open burning.

13.28 Process Emission Source shall mean one or more units of processing equipment which may be operated independently of other parts of the operations at any given manufacturing or processing facility; also, where it is common practice to group more than one unit of like or similar processing equipment together and to apply a single or combined unit of air pollution control equipment to the emissions of the enire group, such group of units shall be construed as a process emission source.

13.29 Process Weight shall mean the total weight of all materials introduced into any process emission source that may cause any emission of air contaminants into the outdoor atmosphere. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion air are not.

13.30 Process Weight Rate shall mean a rate established as follows:

A. For continuous or long-run, steady-state, operations; it is the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of hours of such period or portion thereof.

B. For cyclical or batch source operations, it is the total process weight for a period which covers a complete or integral number of cycles, divided by the hours of actual process operation during such period.

C. Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this definition, that interpretation which results in the minimum value for allowable emissions shall apply.

13.31 Reference Method shall mean a method of monitoring, sampling, and analyzing for air contaminants as described in these regulations.

13.32 Refuse shall mean the inclusive term for solid waste products which are composed wholly or partly of such materials as garbage, sweepings, cleanings, trash, rubbish, litter, industrial, solid, or domestic solid waste; trees or shrub trimmings, grass clippings; brick, plaster, or other waste resulting from the demolition, alteration, or construction of buildings, or structures, accumulated waste material, cans, containers, tires, junk, or other such substances.

13.33 Ringelmann Chart shall mean the chart published and described in the U. S. Bureau of Mines Information Circular No. 8333.

13.34 Salvage Operation shall mean any business, trade, or industry engaged in whole or in part in reclaiming one or more items of value.

13.35 Smoke shall mean small gasborne particles resulting from incomplete combustion, consisting predominantly, but not exclusively, of carbon and other combustible material. It does not include vapor or water droplets.

13.36 Stack shall mean any chimney, flue, duct, conduit, exhaust, vent, or opening of any kind whatsoever capable of or used for the emission of air contaminants.

13.37 Suspended Particulates shall mean particulate matter which may tend to remain suspended in air for an appreciable period of time.

13.38 Source shall mean any property, real or personal, which emits or may emit air contaminants into the outdoor atmosphere.

13.39 Standard Condition unless otherwise specified shall mean a dry gas temperature of 70^{0} F. and a gas pressure of 14.7 pounds per square inch absolute.

14.0 Ambient Air Quality Standards

Ambient Air Quality Standards as given in Table I are applicable throughout Knox County. These ambient air quality standards shall not be construed, applied, or interpreted to allow any deterioration of the existing air quality in any portion of the county.

Primary Ambient Air Quality Standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect the public health.

Secondary Ambient Air Quality Standards define levels of air quality believed adequate, with an appropriate margin of safety, to protect public welfare from any known or anticipated adverse effects of the pollutant.

14.1 Multiple Air Contaminant Source

In an area where an additive effect occurs from the accumulation of air contaminants from two or more sources such that the level of air contaminants exceeds the ambient air quality standards established by the Knox County Air Pollution Control Board, and each source is emitting no more than the allowed limit for an air contaminant for a single source, further reduction of emissions from each source shall be made as determined by the Director with the advice and consent of the Board.

14.2 Single Air Contaminant Source

In an area where an additive effect occurs from the accumulation of a single air contaminant source such that the level of air contaminants exceeds the ambient air quality standards established by the Knox County Air Pollution Control Board, further reduction of emissions from such air contaminant source shall be made as determined by the Director with the advice and consent of the Board.

TABLE I

Knox County Ambient Air Quality Standards for Suspended Particulates, Sulfur Dioxide, Carbon Monoxide, Photochemical Oxidants, Non-Methane Hydrocarbons, and Nitrogen Dioxide.

Contaminant	Primary Standard			Secondary Standard		
	Concentration		Averaging Interval	Concentration		Averaging Interval
	$\mu g/m^3$	ppm by vol.		$\mu g/m^3$	ppm by vol.	
Suspended Particulates	75	--	AGM	60	--	AGM
	260	--	24 hr.	150	--	24 hr.
Sulfur Dioxide	80	0.03	AAM	60	0.02	AAM
	365	0.14	24 hr.	360	0.138	24 hr.
				1,300	0.50	3 hr.
Carbon Monoxide	10,000	9.0	8 hr.	10,000	9.0	8 hr.
	40,000	35.0	1 hr.	40,000	35.0	1 hr.
Photo-Chemical Oxidants	160	0.08	1 hr.	160	0.08	1 hr.
Hydro-Carbons (non-methane)	160	0.24	3 hr. a.m.	160	0.24	3 hr. a.m.
Nitrogen Dioxide	100	0.05	AAM	100	0.05	AAM

NOTES:
1. All values other than annual values are maximum concentrations not to be exceeded more than once per year.
2. PPM (parts per million) values are approximate only.
3. All concentrations relate to air at conditions of 25° C. temperature and 760 millimeters of mercuary pressure.
4. $\mu g/m^3$ - micrograms per cubic meter.
5. AGM - annual geometric mean.
6. AAM - annual arithmetic mean.
7. a.m. - from the period beginning 12 midnight ending at 12 noon.

15.0 Prohibitions of Air Pollution

After the effective date of these Regulations, the General Prohibitions shall apply.

15.1 General

No person owning, leasing, or controlling the operation of any potential air contaminant source shall willfully, negligently, or through failure to provide necessary equipment or facilities or to take necessary precautions, permit the emission from said potential air contaminant sources as will tend to cause a condition of air pollution.

15.2 Circumvention

No person shall use any plan, activity, device, or contrivance which the Director determines will, without resulting in actual reduction of air contaminants, conceal or appear to minimize the effects of an emission which would otherwise constitute a violation of these Regulations. Air introducted for dilution purposes only is considered a circumvention of the Regulations.

15.3 Nuisance Clause

No person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause or have a tendency to cause injury, detriment, annoyance, or adverse effect to the public.

15.4 Traffic Hazard

No person shall discharge from any source whatsoever such quantities of air contaminants, uncombined water, or other materials which cause or have a tendency to cause a traffic hazard or an interference with normal means of public transportation.

15.5 Regulation of Hand-Fired, Fuel-Burning Equipment

After October 1, 1972, no person shall operate any hand-fired solid fossil fuel-burning equipment of a capacity in excess of that needed for heating a building consisting of two (2) or less dwelling units. After July 1, 1975, no person shall operate any hand-fired solid fossil fuel-burning equipment.

15.6 The burning of refuse in any type of fuel-burning equipment, including, but not restricted to, indoor and outdoor fire places; is prohibited except in equipment specifically designed to burn refuse.

15.7 The giving of false information in any form to the Department is prohibited. This includes, but is not limited to emission data, complaints, and other information given voluntarily or required by the Department.

16.0 Open Burning

16.1 Open Burning Prohibited

After the effective date of these regulations, no person shall cause, suffer, allow, or permit open burning except as specifically permitted in this Section.

16.2 Exceptions to Open Burning - Without Permit

Permits are not required for the following:

1. Open fires used in the preparation of food for human consumption.
2. Open fires used for ceremonial purposes.
3. Outdoor barbeques.

16.3 Exceptions to Open Burning - With Permit

Open burning may be allowed when a valid permit has been obtained from the Department for the following purposes prior to the initiation of the open burning provided no land, air, or water traffic hazzard is created.

1. Open burning may be conducted on farm land to clear of material grown on that land where the land is used for agricultural purposes and will continue to be used for agricultural purposes.

2. Open fires may be set for the training and instruction of public or private fire-fighting personnel.

16.4 Open Burning Conditions - With Permit

A. All open burning shall be between the hours of 9:00 a.m. and 3:00 p.m. or as authorized by the Department.

   1. All vestiges of open burning shall be non-existent in the air no later than 4:00 p.m.

   2. Under adverse meteorological or whether conditions as determined by the Director, all permits shall be invalid and no open burning shall be allowed.

   3. The possession of an open burning permit granted by the Department does not relieve any person having such a permit of the responsibility of obtaining any other permit from any other agency.

   4. Permits are only valid for one (1) day and the effective date for open burning shall appear on the permit form.

17.0 Regulation of Visible Emissions

17.1 Visible Emissions Prohibited - Stationary Sources

After the effective date of these regulations, no person shall cause, suffer, allow, or permit discharge from any single source visible emissions of a density darker than No. 1 on the Ringelmann Chart or of an opacity in excess of 20 percent.

17.2 Visible Emissions Prohibited - Mobile Sources

A. After the effective date of these regulations, no person shall cause, suffer, allow, or permit any visible emissions from gasoline-powered motor vehicles except for a period not exceeding five (5) consecutive seconds.

B. After the effective date of these regulations, no person shall cause, suffer, allow, or permit any visible emissions of a shade or density darker than No. 1 on the Ringelmann Chart or 20 percent opacity except for periods not exceeding five (5) consecutive seconds for diesel-powered motor vehicles.

17.3 Exceptions

A. Visible emissions consisting of uncombined water droplets, unless in the opinion of the Director, the water droplets cause air pollution.

B. Section 17.1 shall not apply until July 1, 1975, to fossil fuel-burning equipment used exclusively for heating the dwellings occupied by two or less family units.

C. Visible emissions from any source may be permitted during the cleaning of a fire, the building of a new fire, or the blowing of soot from boilers; the density of which is not darker than No. 2 on the Ringelmann Chart or of an opacity in excess of 60 percent for a period aggregating no more than five (5) minutes in any 60 consecutive minutes or more than twenty (20) minutes in any 24-hour period.

D. These exceptions apply only to visible emissions from fuel-burning sources used to provide space heating or in production of process steam.

18.0 Regulation of Non-Process Emissions

18.1 Non-Process Emission Standards

On or after the effective date of these regulations, no person shall cause, suffer, allow, or permit non-process emissions in excess of the standards set forth in this section.

18.2 Non-Process - Particulate Emissions

A. On or after the effective date of these regulations, no person shall cause, suffer, allow, or permit discharge of particulate emissions into the atmosphere from any new source in excess of that shown in Fiquire 1.

B. On or after October 1, 1972, no person shall cause, suffer, allow, or permit discharge of particulate emissions from any existing source into the atmosphere in excess of those shown in Table 1.

C. On or after July 1, 1975, all sources shall meet the particulate emission standards in Figure 1.

18.3 Gaseous Non-Process Emissions

A. On or after the effective date of these regulations, no person shall cause, suffer, allow, or permit gaseous emissions in excess of the standards as specified in this section.

B. Any person constructing or otherwise establishing air contaminant sources emitting gaseous air contaminants after the effective date of these regulations shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

18.4 Sulfur Oxide Emissions Standards

A. No person shall cause, suffer, allow, or permit the emission from any existing air contaminant source in operation or under construction prior to the effective date of these regulations gases containing more than 2,000 parts per million (0.2 percent by volume - dry basis) of sulfur oxides calculated as sulfur dioxide (SO_2) after October 1, 1972.

B. No person shall cause, suffer, allow, or permit the emission from any air contaminant source constructed after the effective date of these regulations gases in excess of 620 parts per million (0.062 percent by volume - dry basis) of sulfur oxides calculated as sulfur dioxide (SO_2). This allowable emission standard must be attained at the time such new air contaminant source begins operation. After July 1, 1975, all sources shall meet the emission standards of 620 parts per million for sulfur oxides.

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FIGURE 1
MAXIMUM ALLOWABLE PARTICULATE EMISSIONS FROM NON-PROCESS INSTALLATIONS

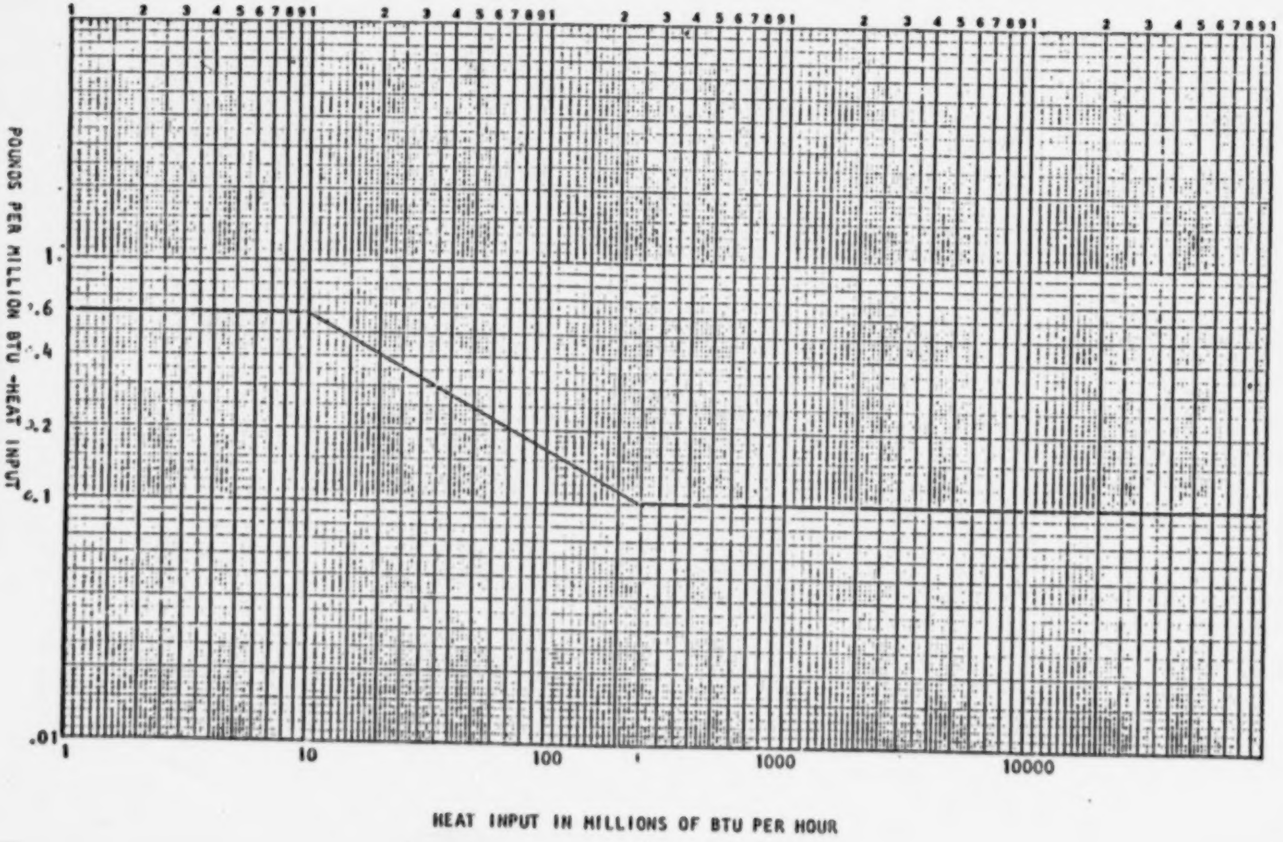

TABLE I

MAXIMUM PARTICULATE EMISSIONS FROM NON-PROCESS INSTALLATIONS

Total Heat Input in Million BTU Per Hour	Maximum Emissions in Pounds Per Million BTU Per Hour
10 and Less	0.60
50	0.46
100	0.40
500	0.30
1,000	0.26
2,500	0.23
5,000	0.20
7,500	0.19
10,000 and Over	0.18

Interpolation of the date in this table shall be accomplished by use of the equation E=0.895H-0.174 be accomplished where E=emitted pounds per million BTU per hour, and H=total heat input in million BTU per hour.

18.5 Total Emission

A. The total non-process emissions from all sources at any one location shall be used for determining the maximum allowable emissions into the atmosphere.

19.0 Regulation of Process Emissions

19.1 Process Emission Standards

On or after the effective date of these regulations, no person shall cause, suffer, allow, or permit process emissions into the atmosphere in excess of the standards of this section.

19.2 Process Emissions

A. On or after the effective date of these regulations, no person shall cause, suffer, allow, or permit discharge of process emissions from any new source into the atmosphere in excess of those levels shown in Table II.

B. On or after October 1, 1972, no person shall cause, suffer, allow, or permit discharge of process emissions from any existing source into the atmosphere in excess of those levels shown in Table III.

C. On or before July 1, 1975, all sources shall meet the process emission rates as set forth in Table II.

19.3 Gaseous Process Emissions

A. On or after the effective date of these regulations, no person shall cause, suffer, allow, or permit gaseous emissions in excess of the standards in this section.

B. Any person constructing or otherwise establishing an air contaminant source emitting gaseous air contaminants after the effective date of these regulations, shall install and utilize the best equipment and technology currently available for controlling such gaseous emissions.

19.4 Sulfur Oxide Emission Standards

A. No person shall cause, suffer, allow, or permit the emission from any existing air contaminant source in operation or under construction prior to the effective date of these regulations gases containing more than 2,000 parts per million (0.2 percent by volume - dry basis) of sulfur oxides calculated as sulfur dioxide (SO_2) after October 1, 1972.

B. No person shall cause, suffer, allow, or permit the emission from any air contaminant source constructed after the effective date of these regulations gases in excess of 500 parts per million (0.05 percent by volume - dry basis) of sulfur oxides calculated as sulfur dioxide (SO_2). This allowable emission standard must be attained at the time such new air contaminant source begins operation. After July 1, 1975, all sources shall meet the emission standards of 500 parts per million for sulfur oxides.

19.5 Total Emissions

The total process emissions from all sources at any location shall be used for determining the maximum allowable emissions to the atmosphere.

TABLE II

NEW PROCESS EMISSION SOURCES
ALLOWABLE RATE OF EMISSION BASED ON TOTAL PROCESS WEIGHT RATE [a]

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr	Tons/Hr.	Lb/Hr.	Lb/Hr.	Tons/Hr.	Lb/Hr.
50	0.025	0.03	16,000	8.00	13.0
100	0.05	0.55	18,000	9.00	14.0
200	0.10	0.86	20,000	10.	15.0
400	0.20	1.32			
600	0.30	1.70	30,000	15.	19.2
800	0.40	2.03	40,000	20.	23.0
1,000	0.50	2.34	50,000	25.	26.4
1,500	0.75	3.00	60,000	30.	29.6
2,000	1.00	3.59	70,000	35.	30.6
2,500	1.25	4.12	80,000	40.	31.2
3,000	1.50	4.62	90,000	45.	31.8
3,500	1.75	5.08	100,000	50.	32.4
4,000	2.00	5.52	120,000	60.	33.3
5,000	2.50	6.34	140,000	70.	34.2
6,000	3.00	7.09	160,000	80.	34.9
7,000	3.50	7.81	200,000	100.	36.1
8,000	4.00	8.5	1,000,000	500.	46.7
9,000	4.50	9.1			
10,000	5.00	9.7			
12,000	6.00	10.9			

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[a] Interpolation of the data in Table 2 for the process weight rates up to 60,000 lbs/hr shall be accomplished by the use of the equation:

$$E = 3.59\ P^{0.62} \qquad P\ 30\ \text{tons/hr}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation:

$$E = 17.31\ P^{0.16} \qquad P\ 30\ \text{tons/hr}$$

Where: E = Emissions in pounds per hour
P = Process weight rate in tons per hour

TABLE III

EXISTING PROCESS EMISSION SOURCES
ALLOWABLE RATE OF EMISSION BASED ON
TOTAL PROCESS WEIGHT RATE [a]

Process Weight Rate		Rate of Emission	Process Weight Rate		Rate of Emission
Lb/Hr.	Tons/Hr.	Lb/Hr.	Lb/Hr.	Tons/Hr.	Lb/Hr.
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.0	19.2
600	0.30	1.83	30,000	15.	25.2
800	0.40	2.22	40,000	20.	30.5
1,000	0.50	2.58	50,000	25.	35.4
1,500	0.75	3.38	60,000	30.	40.0
2,000	1.00	4.10	70,000	35.	41.3
2,500	1.25	4.76	80,000	40.	42.5
3,000	1.50	5.38	90,000	45.	43.6
3,500	1.75	5.96	100,000	50.	44.6
4,000	2.00	6.52	120,000	60.	46.3
5,000	2.50	7.58	140,000	70.	47.8
6,000	3.00	8.56	160,000	80.	49.0
7,000	3.50	9.49	200,000	100.	51.2
8,000	4.00	10.4	1,000,000	500.	69.0
9,000	4.50	11.2	2,000,000	1,000.	77.6
10,000	5.00	12.0	6,000,000	3,000.	92.7
12,000	6.00	13.6			

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[a] Interpolation of the date in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation $E = 4.10\ p^{0.67}$ and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:

$$E = 55.0p^{0.11} - 40, \text{ where } E = \text{rate of emission in lb/hr}$$

and p = process weight rate in tons/hr.

20.0 Regulation of Incinerators

20.1 Prohibitions

A. On or after October 1, 1972, no incinerator shall be installed or operated except multiple chamber incinerators equipped and operated as follows or as required by the Director:

1. Comply with emission standards as set forth in Table Iv.

2. No person shall construct an incinerator have a charging rate of 100 pounds or less per hour.

3. It is provided with an auxiliary burner for purposes of maintaining a temperature of at least 800° F. in the primary combustion chamber.

4. It has a secondary burner to destroy smoke and/or odors.

5. It is a type of incinerator design that can be demonstrated to the Director to be effective in accordance with all provisions of this Section. The burden of proof shall rest upon the owner of the proposed incinerator.

6. Any other provisions of this Section, not withstanding, no person shall operate an incinerator used for the disposal of refuse producted by fewer than 51 families.

7. No person shall make any repairs or alterations to an incinerator which will cost more than 20% of the replacement cost of the incinerator unless such repairs or alterations will result in a final installation which will meet the requirements of these regulations for incinerators.

8. Incinerators having a minimum charging rate of 100 to 600 pounds per hour shall be used for incineration of Type 0 and Type 1 waste exclusively as defined as follows:

    a. Type 0 - trash, a mixture of highly conbustible waste such as paper, cardboard, cartons, wood boxes, and combustible floor sweepings from commercial and industrial activition. This mixture shall not contain oily rags, rubber scraps, or any putresible matter. This type of waste shall not contain more than 10% moisture or 5% noncombustible solids.

b. Type I - trash, a mixture of highly combustible waste such as paper, cardboard, cartons, wood boxes, and combustible floor sweepings from commercial and industrial activities. This mixture shall not contain oily rags, rubber scraps, or any putresible matter. This type of waste shall not contain more than 25% moisture or 10% non-combustible solids.

9. The burning of plastics in any form shall not be permitted in any incinerator having a charging rate of 600 pounds or less per hour.

B. On or before October 1, 1972, all existing incinerators shall meet the standards for particulate emissions as set forth in column B, Table IV.

C. On or after the effective date of these regulations, all new incinerators shall meeet the particulate emissions standards as set forth in column A, Table IV.

D. On or before July 1, 1975, all incinerators shall meet the new particulate emission standards as set forth in column A, Table IV.

E. On or before July 1, 1975, all incinerators shall be equipped with the latest atuomatic control devices as prescribed by the Director.

F. The minimum charging rate of 100 pounds per hour shall not apply to pathological incinerators.

TABLE IV

MAXIMUM ALLOWABLE PARTICULATE EMISSION STANDARDS FOR INCINERATORS

Rated or Operating Charging Rate in Pounds Per Hour	Emission Standard in Percent of Charging Rate	
	A	B
	New Incinerator	Existing Incinerator
100 to 199	0.2	0.6
200 to 599	0.2	0.4
600 to 6,000	0.075	0.4
Greater than 2,000	0.075	

21.0 Regulation of Odors

21.1 Objectionable Odors

After the effective date of these regulations, no person shall cause, suffer, or allow any emissions of gases, vapors, or "objectionable" odors beyond the property line from which such emissions occur, to be in sufficient quantities and of such characteristics and duration as to be injurious, or tend to be injurious to human health and welfare, plant or animal life, or to property, or which unreasonably interferes with the enjoyment of life or property.

21.2 Determination of Objectionable Odors

An odor shall be deemed "objectionable" when 30% or more of the people exposed to it believe it to be objectionable in their usual places of occupancy based on a sample size of at least 20 people; and if fewer than 20 are exposed, 75% must believe it to be objectionable, or when air occurring beyond the property line contains such odorous matter as may be detectable when diluted with eight or more volumes of odor-free air.

21.3 Compliance Schedule

When an odor shall have been deemed objectionable in acceptable proposal shall be submitted to the Director for the control of the objectionable odor. The proposal shall contain an acceptable method and timetable for compliance.

22.0 Regulation of Fugitive Dust and Materials

22.1 On or after the effective date of these regulations, no person shall cause, suffer, allow, or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

A. Use, where possible, water or chemicals for control of dust or materials in demolition of existing buildings or structures, construction operations, grading of roads, or the clearing of land:

B. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials stock piles, and other surfaces which can create airborne dusts or materials:

C. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations.

D. Covering at all times, when in motion, open bodied trucks transporting materials likely to become airborne.

E. The paving of roadways and their maintenance in a clean condition.

F. The prompt removal of earth and other materials from paved streets in which earth or other materials have been transported by trucking or earth moving equipment, erosion, water, or other means.

G. When dust, fumes, gases, odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any regulation, the Director may order that the building or equipment in which processing, handling, and storage are done be tightly closed, ventilated in such a way that all air and gases or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

23.0 Regulation of Hydrocarbon Emissions

For the purpose of this Section, volatile organic compounds shall mean any compound containing carbon and hydrogen or containing carbon and hydrogen in combination with any other element which has a vapor pressure of 1.5 pounds per square inch absolute (77.6 mm. Hg) or greater under actual storage conditions.

23.1 Storage of Volatile Organic Materials

On or after July 1, 1975, no person shall place, store, or hold in any stationary tank, reservoir or other container of more than 40,000 gallons capacity any volatile organic compounds unless such tank, reservoir, or other container is a pressure tank capable of maintaining working pressures sufficient at all times to prevent vapor or gas loss to the atmopshere or is designed, and equipped with one of the following vapor loss control devices:

A. A floating roof consisting of a pontoon type, double deck type roof or internal floating cover, which will rest on the surface of the liquid contents and be equipped with a closure seal or seals to close the space between the roof edge and tank wall. This control equipment shall not be permitted if the volatile organic compounds have a vapor pressure of 11.0 pounds per square inch absolute or greater under actual storage conditions. All tank gauging or sampling devices shall be gas-tight except when tank gauging or sampling is taking place.

B. A vapor recovery system consisting of a vapor gathering system capable of collecting the volatile organic compound vapors and gases discharged and a vapor disposal system capable of processing such volatile organic vapors and gases so as to prevent their emission to the atmosphere and with all tank gauging and sampling devices gas-tight except when gauging or sampling is taking place.

24.0 Regulation of Airborne and Windborne Materials

24.1 Prohibitions

A. On or after the effective date of these regulations, no person shall cause or permit the handling, transporting, or disposition of any substance or material which is likely to be scattered by the air or wind, or is susceptible to being airborne or windborne; or to operator or maintain or cause to be operated, maintained on any premise, open area, right-of-way, storage pile of materials, vehicle, or construction, alteration, demolition, or wrecking operation, or any other enterprise which involves any material or substance likely to be scattered by the wind or air or susceptible to being windborne or airborne, without taking adequate precautions or measures to minimize emission of any air contaminants.

25.0 Permits

25.1 Construction Permit

A. On or after the effective date of these regulations, no person shall begin the construction of a new source or the modification of an existing source, which may result in the discharge of air contaminants without first having applied for and received from the Director a construction permit for the construction or modification of such source.

B. The Director shall not approve such construction or modification unless the applicant demonstrates to the satisfaction of the Director that the source can be expected to comply with the applicable regulations. The Director shall not approve such construction or modification permit if such construction or modification interferes with the attainment of maintenance of the secondary ambient air quality standares as set forth in these regulations.

C. Any person responsible for the construction or modification of a potential air contaminant source shall obtain, on forms furnished by the Department, a valid Construction Permit. All Construction Permits shall be for a period of up to but not exceeding one (1) year as determined by the Department. All Construction Permits shall be renewed annually or at such time as the permit expires. All inspection of the source may be conducted by the Department. All applicants for a Construction Permit shall pay a fee as determined by the Director with the advice and consent of the Board. Any violation of these Regulations shall invalidate the Permit. Upon compliance with these Regulations, it shall be necessary to apply for a new Construction Permit.

25.2 Applications for Permit

A. The application for a construction permit shall be made on forms available from the Director within ninety (90) days prior to the estimated starting date of construction. The Director shall act on all applications for a construction permit within 90 days.

B. In the event the requirement for a construction permit prior to the construction of a new source or the modification of any existing source will create an undue hardship on the applicant, the applicant may request of the Director a waiver to proceed with construction or modification prior to the issuance of a Construction Permit. The applicant for a waiver shall explain the circumstances which will cause such undue hardship. If a waiver is granted, the applicant shall, as soon as reasonably practical, submit a report containing such information as would have otherwise been required in filing for a construction permit. The applicant, after a waiver is granted, proceeds at his own risk; and if after contruction or modification has begun or been completed, the proposed or completed installation does not meet with the Director's approval, alterations required to effect such approval shall be made within reasonable time as specified by the Director. In no case shall this reasonable time exceed 180 days after notification that the construction or modification does not meet with the Director's approval.

C. Construction Permits issued under this section are based on the control of air contaminants only and do not in any way affect the applicant's obligation to obtain necessary permits from other governmental agencies.

25.3 Operating Permit

A. Any person planning to operate a source constructed or modified in accordance with a construction permit issued by the Director, in section 25.1, shall apply for and receive an Operating permit from the Director.

B. When the emissions from an air contaminant source regulated herein in existence on or before the effective date of these regulations exceeds the maximum allowable for such emissions as defined in these regulations, the owner or operator thereof shall, in addition to any other information required by the Director and before an Operating permit for such existing source will be issued by the Director, file a plan for the reduction of such emissions. Such plan shall include a time schedule for the accomplishment of such reductions and the final date for completion shall be not later than the date required for achieving a reduction to the maximum emission level.

Those existing air contaminant sources which must be in compliance with the applicable emission standards by October 1, 1972, shall have filed by April 1, 1970, or at such time thereafter as requested by the Director, a compliance plan for the reduction of such emissions to the extent that the emissions do not exceed the maximum allowable emissions.

Those air contaminant sources which must be in compliance with the applicable emission standards by July 1, 1975, must file by January 1, 1973, a compliance plan for the reduction of such emissions to the extent that the emissions do not exceed the maximum allowable emissions.

1. As a minimum the following information shall be included for each source: total weight of contaminant released per day; period or periods of operation; composition of the contaminant, temperature and moisture content of the air or gas stream in which the contaminant is contained; characterization of the variability of contaminant release with respect to rate, composition and physical characteristics; height, velocity and direction of air or gas stream at the point where released to the atmosphere and such other information as may be specifically required by the Director. All such information shall be submitted on forms available from the Director. Where an air or gas cleaning device is incorporated in the air or gas stream preceding discharge to the atmosphere, the weight of material removed by the cleaning device, as well as the weight emitted, shall be stated.

2. Each compliance plan must provide for periodic increments of progress townards compliance. The dates for achievement of such increments shall be specified. Increments of progress shall include be not be limited to: letting of necessary contracts for construction or process charges, if applicable; initiation of construction, completion and startup of control system; performance tests; and submittal of performance test analysis and results.

3. Any owner or operator required to submit a compliance schedule pursuant to this paragraph shall, within 10 days after the deadline for each increment of progress, certify to the Director whether or not the required increment of the approved compliance schedule has been met.

4. Any person responsible for a potential air contaminant source shall obtain, on forms furnished by the Department, a valid Operating Permit. All Operating Permits shall be for a period of up to but not exceeding one (1) year as determined by the Department. All Operating Permits shall be renewed annually or at such time as the permits expires. An inspection of the source may be conducted by the Department. All applicants for an Operating Permit shall pay a fee as determined by the Director with the advice and consent of the Board. Any violation of these regulations shall invalidate the Permit. Upon compliance with these Regulations, it shall be necessary to apply for a new Operating Permit. The Director shall not approve such operating permit if such operation interferes with the attainment or maintenance of the secondary ambient air quality standards as set forth in these regulations.

C. Application for an Operating Permit shall be made on forms available from the Department and signed by the applicant. Such application for an Operation Permit shall be filed with the Director within thirty (30) days prior to the expiration of an existing Operation Permit. The Director shall act on all applications for an operating permit within 30 days.

D. The Operating Permit shall only be issued on evidence satisfactory to the Director that the operation of said source is in compliance with any standards or regulations adopted by the Board. Such evidence may include a requirement that the applicant conduct such tests as are necessary in the opinion of the Director to determine the kind or amount of air contaminants emitted from the equipment or control apparatus. Standard Operating Permits shall be valid for a period of one (1) year or for such longer period of time as the Director may designate. A permit issued for a period of less than one (1) year shall be designated as a temporary permit.

E. Any person in possession of an Operating Permit shall maintain said Operating Permit readily available for inspection by the Director or his designated representative on the operating premises.

F. Operation of each source shall be in accordance with the provisions and stipulations set forth in the Operating Permit.

G. An Operating permit is not transferable from one person to another person, from one source to another source, or from one location or facility to another location or facility.

H. The Director may suspend or revoke either a construction or operating permit if the permit holder fails to comply with the provisions, stipulations, or compliance schedules specified in the permit. Upon permit revocation, if the permit holder fails to take remedial action, he shall become immediately subject to enforcement actions prescribed in these regulations.

25.4 Compliance Schedule

A. Irrespective of any of the provisions of these regulations, the owner or operator of any air contaminant source shall be responsible for complying with emission regulations as contained in these regulations at the earliest practicable time and for this purpose the Director shall have the authority and responsibility to require compliance with these regulations at an earlier date than indicated where such earlier compliance may reasonable be accomplished. Where compliance with any of these regulations requires a time schedule greater than 18 months from the effective date of these regulations, an acceptable progress report shall be filed with the Director at least 30 days from date of issuance.

25.5 Reporting of Information

No person shall cause or permit the operation of any source without furnishing such performance tests results, information, and records as may be required by the Director in accordance with the applicable rules and regulations. The granting of a permit of any form shall not be construed by that person having such a permit as a license to violate any part of these regulations.

25.6 Exemptions

A. Mobile sources such as: autombiles, trucks, buses, locomotives, planes, boats, and ships.

B. Particulate emissions from a single stack, or an air contaminant source, discharging less than 0.5 pounds per hour of non-hazardous particulates or the total particulate emissions from an air contaminant source amounting to less than two (2) pounds per hour of non-hazardous particulates, whichever is the more restrictive.

C. Equipment used on farms for soil preparation, tending, or harvesting of crops or the preparation of feed to be used on the farm where prepared.

D. A construction or operating permit shall not be required for one and two family dwelling units.

E. A construction or operating permit shall not be required for the operations regulated by Section 17.0, Open Burning. However, a permit shall be required for the use of an air curtain destructor and any similar device for the disposal of waste.

F. Nothwithstanding the exemptions granted in the sections above, no person shall dishcarge, from any source whatsoever, such quantities of air contaminants or other materials which cause or have a tendency to cause injury, detriment, annoyance, or adverse effect to the public.

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25.7 Payment of Fees

All person requesting a construction permit or operating permit shall pay a fee as determined by the Director with the advice and consent of the Board.

26.0 Monitoring, Recording, and Reporting

26.1 Installation of Monitoring Equipment

The Director may require the owner or operator of any air contaminant source to install, use, and maintain such monitoring equipment; sample such emissions in accordance with methods as the Director shall prescribe; and make such periodic emission reports as may be required.

26.2 Filing of Records and Reports

Records and reports as the Director shall prescribe on air contaminants or the quality or quantity of fuel used shall be recorded, compiled, and submitted on forms prescribed by the Department. The procedures below are examples of such requirements:

A. Emissions of particulate matter, sulfur dioxide, and oxides of nitrogen shall be expressed as follows: in pounds per hour and pounds per million B.T.U. of heat input for fuel-burning equipment; in pounds per 100 pounds of refuse burned for incinerators, and in pounds per hourly process weight of production rate or in terms of some other easily measured and meaningful process unit specified by the Director.

B. Sulfur dioxide and oxides of nitrogen emission data shall be averaged over a 24-hour period and shall be summarized monthly. Daily averages and monthly summaries shall be submitted to the Director biannually. Data shall be calculated daily and available for inspection at any time.

C. Particulate matter emissions shall be sampled and analytical data submitted semi-annually.

D. Visible emissions shall be monitored continuously and records kept indicating total minutes per day in which emissions occur.

E. The sulfur content of fuels, as burned, except natural gas, shall be determined in accordance with current, recognized ASTM procedures. Daily and monthly averages shall be available for inspection.

26.3 Filing of Emission Date and Registration

If shall be the responsibility of persons operating air contaminant sources to obtain from the Department any necessary forms for the filing of any required information such as, but not limited to, permits, registration, emission data, or any other forms.

A. The person responsible for any air contaminant source in existence on October 1, 1969, shall within one (1) year of the date, or at such time as requested, have filed with the Director information as would be needed or useful in evaluating the potential of the source for causing air pollution.

B. The following information may be included for each source; total weight of the contaminant released per day; period or periods of operation; composition of the contaminant; physical state of the contaminant; temperature and moisture content of the air or gas stream at the point where released into the atmosphere, and such other information as may be specifically requested by the Department.

Where an air or gas-cleaning device is incorporated in the air or gas stream preceding discharge to the atmosphere, the weight of material removed by the cleaning device, as well as the weight emitted, shall be stated.

26.4 Sampling Required - Establishment of Air Contaminant Emission Levels

A. New Facilities

1. There shall be provided for any stack or duct adequate sampling facilities as follows:

    a. Sampling ports of a size, number, and location as the Director may require.

    b. Safe access to each port.

    c. Such other sampling and testing facilities as the Director may require.

2. The Director may be at his discretion require the applicant for an operating permit to conduct or have conducted such tests as are necessary to establish the amount of air contaminants emitted from such equipment or control apparatus. Such tests shall be made at the expense of the applicant and shall be conducted in a manner approved by the Director. The Director may require that such tests be conducted in the presence of his representative.

B. Existing Facilities

1. Whenever the Director has reason to believe that the emission limits of the regulations set forth herein are being violated, he may require the person to conduct

or have conducted at the person's expense, tests to determine the emission level of specific air contaminants. The Director may require that such tests be conducted in the presence of his representative.

2. The Director may conduct tests of air contaminant emissions from any source. Upon request of the Director, the person responsible for the source to be tested shall provide, at no expense to the Director, reasonable and necessary openings in stacks, vents, and ducts, along with safe and easy access thereto including a suitable power source to the point of testing for proper determination of the level of air contaminant emissions.

C. Periodic Testing Required

The Director may require the person responsible for the air contaminant source as a condition of his operating permit, to conduct or have conducted periodic tests to establish the amount of air contaminants emitted. The nature, extent, and frequency of such required testing shall be specified in the operating permit. Such tests shall be made at the expense of the person and shall be conducted in a manner approved by the Director. The Director shall be supplied with such data as stipulated in the operating permit.

26.5 Monitoring, Recording, and Reporting of Source Emissions

A. Monitoring of Emissions

The Director may require the person responsible for any air contaminant source discharging air contaminants at the expense of the person, to install, use, and maintain such monitoring equipment as the Director shall prescribe; sample such emissions in accordance with methods as the Director shall prescribe; establish and maintain such records; and make periodic emission reports as required.

Each person responsible for any air contaminant source, shall as prescribed by the Director, monitor, and report on specified air contaminants, develop, and submit a detailed monitoring program; and order and install sampling equipment within the following time schedule:

1. Within 60 days after designation by the Director of those air contaminants to be monitored, the person responsible for the air contaminant source shall submit a detailed monitoring program for approval by the Director.
2. Within 30 days after the monitoring program has been approved in writing by the Director, sampling and monitoring equipment shall be ordered.
3. Within 90 days after delivery of the equipment, the person responsible for the air contaminant source shall place said equipment in effective operation in accordance with its approved monitoring program.

26.6 B. Recording and Reporting

Records and reports as the Director shall prescribe on air contaminant emissions, ambient air concentrations, or fuel analyses shall be recorded, compiled, and submitted in a format prescribed by the Director.

27.0 Sampling and Testing Methods

27.1 General

It is explicitly implied that in addition to/and consistent with specific methods of sampling and analysis described herein, that samples shall be taken in such number, duration, and location as to be statistically significant and representative of the condition which the sample(s) purport to evaluate.

Where specific materials, equipment, or procedures are specified, it may be permissible to use other materials, equipment, or procedures where it has been reliably demonstrated that their use produces results comparable to that which would have been obtained by use of the specified materials, equipment, or procedures. All sampling and testing shall be conducted or approved by a professional engineer registered in the State of Tennessee.

27.2 Source Sampling and Analysis

The methods set forth in this section shall be applicable for determining compliance with emission standards.

A. Sample and Velocity Traverses: Sample and velocity traverses shall be determined by the method outlined in the Federal Register, Volume 36, No. 247, December 23, 1971, with this added condition:

> "If traverse readings are within plus or minus 10 percent of average; 1, 2, or 3 points (corrected to average) may be used in subsequent tests, one test in three must be a traverse."

B. Stack Gas Velocity Determination: Determination of stack gas velocity (Type S Pitot Tube) shall be determined by the method outlined in the Federal Register, Volume 36, No. 247, December 23, 1971, except in such instances where Type S Pitot Tube is in applicable.

C. Gas Analysis: Gas analysis for carbon dioxide, excess air, and dry molecular weight shall be accomplished by the method outlined in the Federal Register, Volume 36, No. 247, December 23, 1971, or another type of test procedure that is direct indicating and/or recording approved by the Director.

D. Determination of Moisture in Stack Gases: Moisture shall be determined by the condenser as specified in the Federal Register, Volume 36, No. 247, December 23, 1971, or other technique approved by the Director.

E. Determination of Particulate Emissions: The basic design of the sampling train is left to the person if certain criteria are observed to assure high collection efficiency and standard analysis of the collected particulates.

1. Description of Sampling Apparatus

   a. This apparatus shall include interchangeable sampling nozzles or probes of various diameter, a filter effective for the removal of particles exceeding 0.3 micron diameter of solid or liquid, a suitable number of impingers to reduce condensible vapors to liquid or solid particulate matter, and appropriate connecting tubing at temperatures above the aqueous dewpoint of the gases. All materials of construction shall be resistant to corrosive elements in the fleu gases, e.g., SO_2, NOx, and elevated temperatures.

   b. This filter assembly shall be maintain above the aqueous dewpoint of the flue gases throughout the sampling operation. To accomplish this the filter assembly may be disposed inside the gas flue to be completely bathed by the hot gas stream; or it may be disposed outside the gas stream provided the following precautions are taken:

      1. If the filter is disposed outside the hot gas flue, a temperature indicator, e.g., thermocouple shall be provided at the same filter gas exit to monitor the flue gases at all times. Auxiliary heating elements for tubing and filter holder shall be provided to maintain specified temperatures when required.

      2. Deposits in the tube connecting the probe to the exterior filter shall be quantitatively removed by washing with a suitable liquid and by brushing, the weight of solids recovered from being added to the weight found in the filter.

   c. Provisions shall be included for cooling the gas stream to standard conditions (70°F) to reduce condensible vapors to liquid or solid particulate matter, and for cooling the condensed particles including water that may be formed by condensation of water vapor in the sample. This shall be accomplished by passage through bubblers provided with an orifice submerged in water through which the gas stream passes at a velocity of approximately 100 meters per second. The bubblers should be immersed in an ice bath to minimize evaporation. A trap of suitable shape and dimension for the collection of overflow or overspray shall be provided downstream from the bubblers.

d. An indicating flowmeter shall be provided and preferably located in the train at a point preceding the source of suction, preceded by a trap to prevent condensed water from entering the flowmeter; and a vacuum gauge adjacent to the flowmeter to indicate the absolute pressure of the gas passing through the orifice meter.

e. Operation charts comprising either graphs or tables shall be prepared and be available as part of the apparatus, to indicate proper sampling rates as a function of gas density in the stack and at the flowmeter.

2. Analytical Results

Analytical results shall be accomplished as outlined in the appendix of the Federal Register, Volume 36, No. 247, December 23, 1971, for the filter catch and washings up to the filter. Inclusion or exclusion of material collected in the impinger train as "particulate matter" and method of analysis will be determined on an individual air contaminant source basis.

3. Equivalent Method

Those procedures demonstrated to yield equivalent results and approved by the Director may be used for sampling and analysis of particulate matter. Stack sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.

F. Measurement of Sulfur Dioxide in Stack Gases:

1. The approved procedures for measuring Sulfur Dioxide in stack gases are the Shell Development Company method and the Monsanto Company method.

REFERENCE: (1) Shell Development Company Method

Atmospheric Emission from Sulfuric Acid Manufacturing Processes, Public Health Service Publication 999-AP-13 (1965), Appendix B, pages 85-87.

REFERENCE: (2) Monsanto Company Method

Atmospheric Emission from Sulfur Acid Manufacturing Processes,

Public Health Service Publication 999-AP-13 (1965), Appendix B, pages 63-84.

2. Equivalent Methods: Many new and improved methods of continuous gaseous monitoring in stacks are now in use. Any method of stack sampling approved by the Director may be used in accordance with good professional practice. Stack sampling methods promulgated by the Environmental Protection Agency for specified air contaminant sources are considered to be equivalent methods and therefore acceptable.

G. Measurement of Sulfuric Acid (H_2SO_4) in Stack Gases:

1. The approved procedures for measuring sulfuric acid (H_2SO_4) in stack gases are the Shell Development Company Method and the Monsanto Company Method.

   REFERENCE: (1) Shell Development Company Method

   Atmospheric Emission from Sulfuric Acid Manufacturing Processes,

   Public Health Service Publication 999-AP-13 (1965), Appendix B, pages 85-87.

   REFERENCE: (2) Monsanto Company Method

   Atmospheric Emission from Sulfuric Acid Manfacturing Processes,

   Public Health Safety Publication 999-AP-13 (1965), Appendix B, pages 63-84.

2. Any method of stack sampling approved by the Director may be used in accordance with good professional practice. The stack sampling method promulgated by the Environmental Protection Agency in the Federal Register, Volume 36, No. 247, December 23, 1971, is considered to be an equivalent method.

28.0 Variances

28.1 General

A. Any person may apply to the Director for a variance from these regulations. The Director may grant such a variance for a period not to exceed (1) one year, provided:

1. The request for a variance is presented in writing.

2. The emissions occuring or proposed to occur do not endanger or tend to endanger human health or safety; or unreasonably interferes with the enjoyment of life and property.

3. Compliance with the regulations from which a variance is sought would produce serious hardship without equal or greater benefits to the public.

B. The Director shall present the request for a variance to the Board for public hearing.

C. Any variance granted within the requirements of Section 28.1 for time periods and under conditions consistent with the reasons therefore, shall be with the following limitations.

1. If the variance is granted on the grounds that there is no practicable means known or available for the adequate prevention, abatement, or control of the air pollution involved; that the variance shall be permitted only until the necessary means for prevention, abatement, or control become known and available; and that the variance shall be subject to the taking of any substitute or alternative measures that the Director may prescribe.

2. If the variance is granted on the grounds that compliance with the particular requirement or requirements from which variance is sought will necessitate the taking of measures which, because of their extent or cost, must be spread over a considerable period of time, it shall be for a period not to exceed such reasonable time as, in the opinion of the Director, is required for the taking of the necessary measures. A variance granted on the grounds specified herein shall contain a timetable for the taking of action in an expeditious manner and shall conditioned on adherence to such timetable.

D. Every applicant or petitioner requesting a variance shall pay a fee. The schedule of fees shall be based upon cost as determined by the Director with the advice and consent of the Board. All requests for a variance shall be published in a newspaper of general circulation in Knox County at least thirty (30) days prior to any action taken upon a request for a variance.

29.0 Appeals

29.1 General

A. Any person, if dissatisfied with the Director's decision concerning a variance, may within ten (10) days, appeal; in writing, therefrom to the Board which shall within a reasonable length of time, after public hearing, confirm, modify, or reverse the Director's decision.

B. Any other citizen of Knox County who disagrees with any ruling of the Director for any reason concerning air pollution may appeal, in writing, that ruling to the Board which shall within a reasonable length of time, after public hearing, confirm, modify, or reverse the Director's decision.

C. Every applicant or petitioner requesting an appeal shall pay a fee. The schedule of fees shall be based upon cost as determined by the Director with the advice and consent of the Board. All requests for an appeal shall be published in a newspaper of general circulation in Knox County, not less than thirty (30) days prior to any action taken upon a request of an appeal.

29.2 Public Hearing of Appeals

A. Hearings of appeals shall be conducted before a majority of the Board and will be conducted in the following manner:

1. The petitioner shall be given written notice at the earliest practicable time as to the time and place of such hearing.
2. The Chairman of the Board or his delegated member shall serve as a Hearing Examiner to conduct hearings and a complete record of the hearing shall be made for review by the Board members.
3. All testimony shall be recorded and may or may not be under oath, at the discretion of the Board. The transcript so recorded shall be made available to the petitioner or any party to the hearing upon the payment of the fee for transcribing said testimony.
4. The Board is considering the granting of a variance shall give due consideration to the equities of the petitioner and the others who may be affected by granting or denying the petition.

5. The Board may make the granting of a petition for a variance contingent upon such other requirements or restrictions on the petitioner as the Board may deem appropriate and reasonable.

6. Any variance granted shall be for a period not to exceed one (1) year.

B. If the variance is granted on the grounds that there are no practicable means known or available for the adequate prevention, abatement, or control of the air pollution involved, it shall be only until the necessary means for prevention, abatement, or control become known and available, and subject to the taking of any substitute or alternate measures that the Board may prescribe.

C. If the variance is granted on the grounds that compliance with the particular requirement or requirements from which variance is sought will necessitate the taking of measures which, because of their context or cost, must be spread over a considerable period of time, it shall be for a period not to exceed such reasonable time as, in the view of the Board, is requisite for the taking of the necessary measures. A variance granted on the ground specified herein shall contain a timetable.

D. The Board shall issue and give to the petitioner, in writing, within sixty (60) days following the final argument in such hearing, its final order or determination. Such order or determination shall be approved by at least the majority of members to which the Board is entitled.

E. Upon failure to the Board to issue a final order or determination within sixty (60) days after the final argument in any such hearing the petitioner shall be entitled to treat for all purposes such failure to act as a granting of the variance requested.

F. The burden of proof in such hearings shall be upon the petitioner.

G. Nothing in this section and no variance or renewal thereof granted pursuant hereto shall be construed to prevent or limit the application of the emergency provisions and procedures of these regulations to any person or his property.

H. All final decisions of the Director and the Board shall be on file in the office of the Department and may be inspected by the public during regular office hours.

29.3 Judical Review

Any ruling of the Board shall be subject to review with the Circuit Court of Knox County on a petition for common law writ or certiorari filed within ten (10) days after the Board's decision.

30.0 Violations

30.1 General

A. Violation of any regulation duly adopted by the Board is declared to be a misdemeanor punishable as provided in Tennessee Code Annotated 39 - 105.

B. Violation of any regulation or section of these regulations is considered a separate offense.

C. Each day of violation of any regulation or section of these regulations is considered a separate offense.

D. Every person who is convicted of a misdemeanor shall be punished by imprisonment in the county jail or workhouse not more than one year, or by fine not exceeding one thousand dollars ($1,000) or by both, in the discretion of the Court.

E. Whenever evidence has been obtained or received establishing that a violation of these regulations has been committed, the Director shall have the power and authority to initiate proceedings to prosecute the violator.

F. The Director any cause to be instituted in civil action in any court of competent jurisdiction for injunctive relief to prevent violation of any regulation promulgated by the Board or of any order duly issued by the Director (as confirmed or modified by the Board, if this be the case).

G. Nothing in these regulations shall prevent the Director from making efforts to obtain voluntary compliance with these regulations by issuing a notice to correct or cease the violation. Such notice shall briefly set forth the general nature of the violations and specify a reasonable time within which the violation shall be rectified or stopped. If the violation is not corrected with the time so specified, or the violation stopped, or reasonable steps taken to rectify the violation, the Director shall have the power and authority to issue an order requiring the violator to cease or suspend operation of the facility causing the violation until the violation has been corrected.

H. Where a time for compliance schedule has been established in these regulations, failure to comply with the time schedule and fails to do so in the time allocated by the Director for submitting such proposal and time schedule, such person shall be considered in violation of these regulations.

I. When any person has been requested by the Director to submit to the Director an acceptable proposal and time schedule and fails to do so in the time allocated by the Director for submitting such proposal and time schedule, such person shall be considered in violation of these regulations.

J. Where an acceptable proposal and timetable has been submitted to the Director by any person, failure to comply with the proposal and time schedule shall be considered a violation of these regulations.

30.2 Presumption Clause

Where a violation of these regulations occurs by any person, it shall be presumed that such violation occurred with the knowledge and consent of such person.

31.0 Right of Entry

A. In the performance of their duties, the Director and other employees of the Department are hereby authorized to enter upon and into premises or buildings, to collect and preserve evidence of all facts of violations or possible violations of these regulations, or to perform any duty imposed by these regulations.

B. This section shall not apply to private residences (homes or houses) occupied by two or less dwelling units.

32.0 Use of Evidence

31.1 General

A. Any evidence, finding, fact, or other actions resulting from a violation of these regulations or orders issued pursuant thereto shall insure solely to and shall be for the benefit of the public generally.

B. These regulations are not intended to create in any way or to enlarge or affect in any way any private right.

C. A determination that these has been a violation of these regulations or orders issued pursuant thereto shall not be used in any law suit brought by any private citizen.

33.0 Confidentiality and Accessibility of Records

33.1 General

Any records or other information furnished to the Department concerning one or more air contaminant sources, which records or information, as certified by the owner or operator, relate to production or sales fiqures or the processes or production unique to the owner or operator, shall be only for the confidential use of the Department or the Board in the administration of these regulations, unless such owner or operator shall expressly agree to their publication or availability to the general public or unless the disclosure of such information is required for the prosecution of a violation of these regulations thereunder. Nothing herein shall be construed to prevent the use of such records or information by the Department in compiling or publishing analyses or summaries relating to the general condition of the outdoor atmosphere: provided that such analyses or summaries do not identify any owner or operator or reveal any information otherwise confidential under this section.

33.2 Exemptions

A. The composition of air contaminants and emission data shall not be considered confidential. Such data shall be accessible to the public at the office of the Department during normal working hours.

B. Written records, including, but not limited to the granting of variances and permits, are accessible to the public at the office of the Department of Air Pollution Control and such records are subject to review by the Board.

C. Written records shall be maintained of all actions taken by the Department and such records shall be accessible to the public at the office of the Air Pollution Control Department during normal working hours.

34.0 Malfunction of Equipment

34.1 General

A. In the case of shutdown of air pollution control equipment for necessary or scheduled maintenance, the intent to shutdown such equipment shall, except as provided in Section B of this section, be reported to the Director at least (24) twenty-four hours prior to the planned shutdown. Such prior notice shall include, but is not limited to the following:

1. Identification of the specific facility to be taken out of service as well as its location and permit number.

2. The expected length of time that the air pollution control equipment will be out of service.

3. The nature and quantity of emissions of air contaminants likely to occur during the shutdown period.

4. Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period.

B. Exceptions to shutdown reporting requirements:

1. The report described in Section A of this section shall not be required when, during the shutdown referred to therein, the air contaminants are handled through alternate air pollution control equipment.

2. When shutdowns referred to in Section A of this section are on a routine schedule, the report to the Director may be furnished on an annual basis and shall list the dates and times of the routine schedule shutdown during the following year.

C. When any emission source, air pollution control equipment, or related facility breaks down in such a manner as to cause the emission of air contaminants for an anticipated or actual duration of at least twenty-four (24) hours in violation of these regulations, the person responsible of such equipment shall immediately notify the Director of such failure of breakdown and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The Director shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation. Where such breakdown might cause the release of air contaminants in such quantity and/or quality and of such duration of time as to create an episode, the regulations as set forth in Section 36.0 shall apply immediately.

35.0 Hazardous Air Contaminants

35.1 General

Hazardous air contaminants are any air contaminants which may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness, and has been so designated by the Director. Asbestos, beryllium, and mercury are hereby designated hazardous air contaminants. The Director amy from time to time, without public hearing designate additional hazardous air contaminants as designated by the Environmental Protection Agency and published in the Federal Register.

35.2 Information Required Concerning Hazardous Air Contaminants

A. The owner or operator of one or more sources of hazardous air contaminants in existence on the effective date of this regulation shall within (4) four months after official notification by the Director, file with the Director information necessary to allow the evaluation of the air pollution potential of such emissions.

1. As a minimum the following information shall be included for each source which hazardous air contaminants are emitted: identification of hazardous air contaminant; source of hazardous air contaminant; total weight of hazardous air contaminant released per day; period or periods of operation; composition of the hazardous air contaminant; physical state of the hazardous contaminant; temperature and moisture content of the air or gas stream in which the hazardous air contaminant is contained; characterization of the varibility of hazardous air contaminant release respect to rate, composition, and physical characteristics; height, velocity, and direction of air or gas stream at the point where released to the atmosphere and such other information as may be specifically requested by the Director. All such information shall be submitted on forms available from the Director.

2. The owner or operator of a source constructed after the effective date of these regulations shall file with the Director not less than ninety (90) days prior to the estimated starting date of construction, sufficient information to allow evaluation of the air pollution potential of such hazardous air contaminants.

35.3 Operation of Source Emitting Hazardous Air Contaminants

Persons responsible for an air contaminant source emitting designated hazardous air contaminants shall give utmost care and consideration to the potential, harmful effects of emissions resulting from such activities. Evaluation of these facilities as to the adequacy, efficiency, and emission potential will be made on an individual basis by the Director or his designated representative. Such evaluation may require any person responsible for a source of air contaminants to perform such tests as are necessary in the opinion of the Director.

36.0 Emergency Regulations

36.1 Episode Criteria

The pollutant concentrations in the ambient air which would trigger these control actions were selected primarily from expected changes in air quality that would result from accumulation and dispersal processes acting at the same time during a period of continued stagnation. The episode air quality criteria are presented below:

A. Air Pollution Forecast: An internal watch by the Department of Air Pollution Control shall be actuated by a National Weather Service advisory that an Atmospheric Stagnation Advisory is in effect or the equivalent local forecast of stagnant atmospheric condition.

B. Alert: The alert level is that concentration of pollutants at which first stage control actions are to begin. An alert will be delcared when any one of the following levels is reached at any monitoring site:

Sulfur Dioxide (SO_2) - 800 $\mu g/m^3$ (0.3 ppm) 24-hour average
Particulate - 3.0 COHs or 375 $\mu g/m^3$ - 24-hour average
Sulfur Dioxide and Particulate Combined - product of sulfur dioxide ppm, 24-hour average, and COHs equal to 0.2 or product of sulfur dioxide - $\mu g/m^3$, 24-hour average equal to 65 x 10^3.
Carbon Monoxide (CO) - 17 mg/m^3 (15 ppm) - 8-hour average
Oxidant (O_3) - 200 $\mu g/m^3$ (0.1 ppm) - 1-hour average
Nitrogen Dioxide (NO_2) - 1,130 $\mu g/m^3$ (0.6 ppm) - 1-hour average, 282 $\mu g/m^3$ (0.15 ppm) - 24-hour average.

and meteorological conditions are such that the pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken.

C. Warning: The warning level indicates that air quality is continuing to degrade and that additional control actions are necessary. A warning will be declared when any one of the following levels is reached at any monitoring site:

Sulfur Dioxide (SO_2) - 1,600 $\mu g/m^3$ (.0.6 ppm) - 24-hour average
Particulate - 5.0 COHs or 625 $\mu g/m^3$ - 24-hour average
Sulfur Dioxide and Particulate Combined - product of sulfur dioxide ppm, 24-hour average and COHs equal to 0.8 or product of sulfur dioxide $\mu g/m^3$, 24-hour average and particulate $\mu g/m^3$, 24-hour average equal to 26 x 10^3.

Carbon Monoxide (CO) - 34 mg/m^3 (30 ppm), 8-hour average
Oxidant (O_3) - 800 μg/m^3 (0.4 ppm), 1-hour average
Nitrogen Dioxide (NO_2) - 2,260 μg/m^3 (1.2 ppm), 1-hour average 565 μg/m^3 (0.3 ppm), 24-hour average

and meterological conditions are such that pollutant concentrations can be expected to remain at the above levels for twelve (12) or more hours or increase unless control actions are taken.

D. Emergency: The emergency level indicates that air quality is continuing to degrade toward a level of significant harm to the health of persons and that the most stringent control actions are necessary. An emergency will be declared when any one of the following levels is reached at any monitoring site:

Sulfur Dioxide (SO_2) - 2,100 μg/m^3 (0.8 ppm), 24-hour average
Particulate - 7.0 COHs or 875 μg/m^3, 24-hour average
Sulfur Dioxide and Particulate Combined - product of sulfur dioxide ppm, 24-hour average and COHs equal to 1.2 or product of SO_2 μg/m^3, 24-hour average and particulate μg/m^3, 24-hour average equal to 393 x 103 x 10^3
Carbon Monoxide (CO) - 46 mg/m^3 (40 ppm), 8-hour average
Oxidant (O_3) - 1,200 μg/m^3 (0.6 ppm), 1-hour average
Nitrogen Dioxide (NO_2) - 3,000 μg/m^3 (1.6 ppm), 1-hour average; 750 μg/m^3 (0.4 ppm), 24-hour average

and meterological conditions are such that this condition can be expected to continue for twelve (12) or more hours.

E. Termination: Once declared, any status reached by application of these criteria will remain in effect until the criteria for that level are no longer met. At such time, the next lower status will be assumed.

36.2 Emission Reduction Plans - Alert Level

36.3 General

A. There shall be no open burning by any person.

B. The use of incinerators shall not be permitted.

C. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12:00 noon and 4:00 p.m.

D. Persons operating motor vehicles should eliminate all unnecessary operation.

36.4 Source Curtailment

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this alert level.

A. Source of Air Pollution

Coal or oil-fired electric power generating facilities.

Control Action

1. Substantial reduction by utilization of fuels having low ash and sulfur content.
2. Maximum utilization of mid-day (12:oo noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
3. Substantial reduction by diverting electric power generation to facilities outside of alert area.

B. Source of Air Pollution

Control Action

1. Substantial reduction by utilization of fuels having low ash and sulfur content.
2. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
3. Substantial reduction of steam load demands consistent with continuing plant operations.

C. Source of Air Pollution

Manufacturing industries of the following classifications:

Primary Metals Industry
Chemical Industries
Paper and Allied Products
Petroleum Refining Operations
Mineral Processing Industries
Grain Industry

Control Action

1. Substantial reduction of air contaminants from manufacturing operations by curtailing, postponing, or deferring production and all operations.

2. Maximum reduction by deferring trade waste disposal operations which emit solid particles, gases, vapors, or malodorous substance.

3. Maximum reduction of heat load demands for processing.

4. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.

36.5 Emission Reduction Plans - Warning Level

36.6 General

A. There shall be no open burning by any person.

B. The use of incinerators shall not be permitted.

C. Persons operating fuel-burning equipment which requires boiler lancing or soot blowing shall perform such operations only between the hours of 12:00 noon and 4:00 p.m.

D. Persons operating motor vehicles must reduce operations by the use of car pools and increase use of public transportation and the elimination of unnecessary operation.

36.7 Source Curtailment

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this warning level.

A. Source of Air Pollution

Coal or oil-fired power generating facilities

Control Action

1. Maximum reduction of utilization of fuels having lowest ash and sulfur content.
2. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.
3. Maximum reduction by diverting electric power to facilities outside of warning area.

B. Source of Air Pollution

Coal and oil-fired process steam generating facilities.

Control Action

1. Maximum reduction by utilization of fuels having the lowest available ash and sulfur content.

2. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.

3. Making ready for use a plan of action to be taken if an emergency develops.

C. Source of Air Pollution

Manufacturing industries which require considerable lead time for shutdown including the following classifications:

Petroleum Refining
Chemical Industries
Primary Metals Industries
Glass Industries
Paper and Allied Products

Control Action

1. Maximum reduction of air contaminants from manufacturing operations by, if necessary, assuming reasonable economic hardship by postponing production and allied operation.

2. Maximum reduction by deferring trade waste disposal operations which emit solid particles, gases, vapors, or malodorous substances.

3. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.

D. Source of Air Pollution

Manufacturing industries which require relatively short lead times for shutdown including the following classifications:

Primary Metals Industries
Chemical Industries
Mineral Processing Industries
Grain Industry

Control Action

1. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing, or

deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.

2. Elimination of air contaminants from trade waste disposal processes which emit solid particles, gases, vapors, or malodorous substances.

3. Maximum reduction of heat load demands for processing.

4. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.

36.8 Emission Reduction Plans - Emergency Level

36.9 General

A. There shall be no open burning by any persons.

B. The use of incinerators shall not be permitted.

C. All places of employment described below shall immediately cease operation:

1. Mining and quarrying of non-metallic minerals.

2. All construction work except that which must proceed to avoid eminent physical harm.

3. All manufacturing establishments except those required to have in force an air pollution emergency plan.

4. Wholesale trade establishments; i.e., places of business primarily engaged in selling merchandise to retailers, to industrial, commercial, institutional, or professional users, or to other wholesalers, or acting as agents in buying merchandise for or selling merchandise to such persons or companies except those engaged in the distribution of drugs, surgical supplies, and food.

5. All offices of local, county, and State government including authorities, joint meetings, and other public bodies excepting some agencies which are determined by the chief administrative officer of local, county, or State government, authorities, joint meetings, and other public bodies to be vital for public safety and welfare and the enforcement of the provisions of this order.

6. All retail trade establishments except pharmacies, surgical supply distributors, and stores primarily engaged in the sale of food.

7. Banks, credit agencies other than banks, securities and commodities brokers, dealers, exchanges and services; offices of insurance carriers, agents and brokers, and real estate offices.

8. Wholesale and retail laundries, laundry services and cleaning and dyeing establishments; photographic studios; beauty shops, barber shops, and shoe repair shops.

9. Advertising offices; consumer credit reporting, adjustment and collection agencies; duplicating, addressing, blue-printing; photocopying, mailing, mailing lists and stenographic services; equipment rental services, commercial testing laboratories.

10. Automobile repair, automobile services, garages.

11. Establishmens rendering amusement and recreation services including motion picture theaters.

12. Elementary and secondary schools, colleges, universities, professional schools, junior colleges, vocational schools, and public and private libraries.

D. All commercial and manufacturing establishmens not included in this order will institute such actions as will result in maximum reduction of air pollutants from their operations by ceasing, curtailing, or postponing operations which emit air pollutants to the extent possible without causing injury to persons or damage to equipment.

E. The use of motor vehicles is prohibited except in emergencies with the approval of local and/or State police.

36.10 Source Curtailment

Any person responsible for the operation of a source of air pollutants listed below shall take all required control actions for this emergency level.

A. Source of Pollution

Coal and oil-fired electric power generating facilities.

Control Action

1. Maximum reduction by utilization of fuels having lowest ash and sulfur content.

2. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.

3. Maximum reduction by diverting electric power generation to facilities outside the emergency area.

B. Source of Air Pollution

Coal and oil-fired process steam generating facilities.

Control Action

1. Maximum reduction by reducing heat and steam demands to absolute necessities consistent with preventing equipment damage.

2. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing and soot blowing.

3. Taking the action called for in the emergency plan.

C. Source of Air Pollution

Manufacturing industries of the following classifications:

Primary Metals Industries
Chemical Industries
Grain Industry
Petroleum Refining
Mineral Processing Industries
Paper and Allied Products

Control Action

1. Elimination of air contaminants from manufacturing operations by ceasing, curtailing, postponing, or deferring production and allied operations to the extent possible without causing injury to persons or damage to equipment.

2. Elimination of air contaminants from trade waste disposal processes which emit solid particles, gases, vapors, or malodorous substances.

3. Maximum reduction of heat load demands for processing.

4. Maximum utilization of mid-day (12:00 noon to 4:00 p.m.) atmospheric turbulence for boiler lancing or soot blowing.

37.0 Separation of Emissions

37.1 General

If air contaminants from a single source operation are emitted through two or more emission points, the total emitted quantity of any air contaminant limited in these regulations cannot exceed the quantity which would be the allowable emission through a single emission point; and the total emitted quantity of such air contaminant shall be taken as the product of the emission points and the exhaust gas volume through all emission points, unless the person responsible for the source operation establishes the correct total emitted quantity.

38.0 Combination of Emissions

38.1 General

A. If air contaminants from two or more source operations are combined prior to emission and there are adequate and reliable means reasonably susceptible to confirmation and use by the Director for establishing a separation of the components of the combined emission to indicate the nature, extent, quantity, and degree of emission arising from each such source operation, these regulations apply to each such operation separately.

B. If air contaminants from two or more source operations are combined prior to emission and the combined emission cannot be separated according to the requirements of paragraph 38.1 A, these regulations shall be applied to the combined emission as if it originated in a single source operation subject to the most stringent limitations and requirements placed by these regulations on any of the source operations whose contaminants are so combined.

39.0 Severability

39.1 General

The provisions of these Regulations are severable and if any part, section, subsection, clause, paragraph or pharse of these Regulations shall be adjudged to be invalid or unconstitutional by any court of competent jurisdication, the judgement shall not affect, impair or invalidate the remainder of these Regulations, but shall be confined in its operation to the part, section, subsection, clause, paragraph or phrase of these Regulations that shall be directly involved in the controversy in which such judgment shall have been rendered.

AIR POLLUTION CONTROL

CHAPTER 3

MEMPHIS CITY CODE

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CHAPTER 3

AIR POLLUTION CONTROL

Article I. In General

Section 3-1 Definitions

For the purposes of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

Air cleaning device shall mean any method, process or equipment which removes, reduces or renders less noxious, air contaminants discharged into the atmosphere.

Air contaminant shall mean dust, fumes, mist smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof.

Air contaminant source is any and all sources of emission of air contaminants, whether privately or publicly owned or operated. Without limiting the generality of the foregoing, this term includes all types of business, commercial and industrial plants, works, shops and stores, and heating and power plants and stations, buildings and other structures of all types, including multiple family residences, apartment houses, office buildings, hotels, restaurants, schools, hospitals, churches and other institutional buildings; automobiles, trucks, tractors, buses and other motor vehicles; garages; vending and service locations and stations; railroad locomotives; ships, boats and other waterborne craft; portable fuel burning equipment; incinerators of all types, indoor and outdoor; and refuse dumps.

Air pollution is the presence in the outdoor atmosphere of one or more air contaminants in such quantities, characteristics, or duration as is or tends to be injurious to human health or welfare, or animal or plant life or health, or property, or would interfere with the enjoyment of life or property or the conduct of business.

Board shall mean the air pollution control hearing board.

Emission means the act of releasing or discharging air pollutants into the ambient air from any source.

Ferrous jobbing cupola shall mean a vertical cylindrical furnace with tuyeres and tapping spouts near the bottom used for melting iron in a foundry operating not more than four hours in a day with a process weight rate not in excess of 20,000 pounds per hour.

Fuel burning installation shall mean any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer.

Fugitive dust shall mean solid, airborne particulate matter emitted from any source other than through a stack.

Health Department is the Memphis and Shelby County Health Department.

Health Officer shall mean the Director of the Memphis and Shelby County Health Department, or his designated representative.

Incinerator is any equipment, device, or contrivance used for disposal of waste or refuse by burning.

Opacity shall mean a state which renders material partially or wholly inpervious to rays of light and causes obstruction of an observer's view. The percentage opacity of a plume is numerically equal to twenty (20) times the Ringelmann number for a plume of black smoke having equivalent capacity of obscuration.

Open burning is unconfined burning of combustible material where no equipment has been provided and used for control of air for combustion.

Particulate matter shall mean any material, except water in uncombined form, that is or has been airborne and exists as a liquid or a solid at standard conditions.

Person shall mean any individual, public or private corporation, political subdivision, agency, board, department or bureau of the state, municipality, partnership, association, firm, trust, estate, or any other legal entity whatsoever which is recognized by law as the subject of right and duties.

Process weight means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion air are not. For a cyclical or batch operation, the process weight per hour is derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle. For a continuous operation, the process weight per hour is derived by dividing the process weight for a typical period of time.

Ringelmann chart means the chart published and described in the U.S. Bureau of Mines Information Circular 8333.

Source means any property, real or personal, which emits or may emit any air pollutant.

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Stack shall mean any chimney, flue, conduit, or duct arranged to conduct emissions to the ambient air.

Standard conditions shall mean a dry gas temperature of 70^0 Fahrenheit and a gas pressure of 14.7 pounds per square inch absolute.

Section 3-2 Violations of Chapter-Notice; Citation; Injunctive Relief

(a) Whenever evidence has been obtained or received establishing that a violation of this code has been committed, the health officer shall issue a notice to correct the violation or a citation to cease the violation. Such notice or citation shall briefly set forth the general nature of the violation and specify a reasonable time within which the violation shall be rectified or stopped. If the violation is not corrected within the time so specified, or the violation stopped, or reasonable steps taken to rectify the violation, the health officer shall have the power and authority to issue an order requiring the violator to cease or suspend operation of the facility causing the violation until the violation has been corrected, or initiate proceedings to prosecute the violator for violation of this code.

(b) In the event any person fails to comply with a cease or suspend operation order, that is not subject to a stay pending administrative or judicial review, the health officer shall institute proceedings in a court of competent jurisdiction for injunctive relief to enforce the regulations or orders pursuant hereto.

Section 3-3 Penalty

Violation of any provision of this Chapter is declared to be a misdemeanor and each day of violation shall constitute a separate offense. Conviction of a misdemeanor is punishable by imprisonment of not more than thirty (30) days or fifty dollars ($50.00) fine or both.

Legal authority: Tennessee Code Annotated 53-3423.

Section 3-4 Emergencies

(a) Any other provisions of the law notwithstanding, if the health officer finds that a generalized condition of air pollution exists and that it creates an emergency requiring immediate action to protect human health or safety, the health officer shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air contaminants. Upon issuance of any such order, the health officer shall fix a place and time, not later than twenty-four (24) hours thereafter, for a hearing to be held before the Air Pollution Control Hearing Board. Such hearing shall be held in comformity with the provisions of Section 3-35, insofar as applicable. Not more than twenty-four (24) hours after the commencement of such hearing, and without adjournment thereof, the Air Pollution Control Hearing Board shall affirm, modify or set aside the order of the health officer.

(b) In the absence of a generalized condition of air pollution of the type referred to in subsection (a) of this section, but if the health officer finds that emissions from the operation of one or more air contaminant sources is causing imminent danger to human health or safety, he may order the person responsible for the operation in question to reduce or discontinue operations immediately, without regard to the provisions of this Chapter. In such event, the requirements for hearing and affirmance, modification or setting aside of orders set forth in subsection (a) of this section shall apply.

Section 3-5 New Sources and Modification of Existing Sources of Air Contamination - Approval Required

(a) No person shall construct a new air contaminant source or make modifications to an existing air contaminant source or install an air cleaning device without first having submitted a report and/or plans and specifications to the health officer for approval prior to the initiation of construction.

(b) The application for construction approval shall be made on forms available from the health officer not less than ninety (90) days prior to the estimated starting date of construction.

(c) In the event the requirement for approval prior to construction will create an undue hardship to the applicant, the applicant may request of the health officer a waiver to proceed with construction. The application for a waiver shall explain the circumstances which will cause such undue hardship.

(d) If a waiver is granted the applicant shall submit a report and/or plans and specifications for approval as soon as is reasonably practical. The applicant, after a waiver is granted, proceeds with construction at his own risk; and if after construction, modification, relocation or installation has begun or been completed, the report and/or plans and specifications and completed installations do not meet the health officer's approval, the alterations required to effect such approval shall be made within a reasonable time, as specified by the health officer.

(e) The health officer will acknowledge receipt of the report and/or plans and specifications within one week of the receipt and will estimate the time necessary for processing. The health officer will notify, the applicant in writing of his approval, or denial.

(f) Reports and or plans and specifications will be approved, and a construction permit issued, only when it appears that they are in accordance with engineering guides acceptable to the health officer and provided that the emissions from the proposed air contaminant source will not prevent the attainment and maintenance of the ambient air quality standards as set forth in Section 3-15 of this Chapter.

(g) In the event of the denial of an application, the applicant will be notified in writing of the reasons thereof. All denials shall be without prejudice to the applicant's request for a hearing before the health officer or for filing a further application after revisions are made to meet the objections specified as the reason for the denial.

(h) Construction approvals issued under this section are based on the control of air contaminants only and do not in any way affect the applicant's obligation to obtain necessary permits from other governmental agencies.

Section 3-6 Operating Permits

(a) Any person operating a facility constructed or modified in accordance with Section 3-5 of this Chapter shall receive an Operating Permit from the health officer within thirty (30) days after said facility is placed in operation.

(b) Any person operating an air contaminant source constructed on or before the effective date of this regulation shall file an application for an Operating Permit with the health officer on or before January 1, 1973.

(c) Application of an Operating Permit shall be made on forms available from the health officer and shall include as a minimum the following information for each source: total weight of contaminants released each day; period or periods of operation; composition of the contaminant; physical state of the contaminant; temperature and moisture content of the air or gas stream in which the contaminant is contained; characterization of the variability of the contaminant with respect to rate, composition, and physical characteristics; height, velocity, and direction of the air or gas stream at the point where released to the atmosphere, and such other information as specifically required by the health officer. Where an air or gas cleaning device is incorporated in the air or gas stream preceding discharge to the atmosphere, the weight of the material removed by the cleaning device as well as the weight of the material emitted shall be stated.

(d) The Operating Permit shall only be issued on evidence satisfactory to the health officer that the operation of said facility is in compliance with the regulations of this Chapter or directives of the health officer. Such evidence may include a requirement that the applicant conduct such tests as are necessary in the opinion of the health officer to determine the kind and amounts of contaminants emitted from the equipment or air cleaning device.

(e) Operating Permits shall be valid for a period of one (1) year or for such longer period of time as the health officer may designate. A permit issued for a period of less than one (1) year shall be designated as a Temporary Permit. The application for renewal of an Operating Permit shall be filed with the health officer not less than thirty (30) days prior to the expiration of an existing Operating Permit.

(f) Operation of each facility shall be in accordance with the provisions and stipulations set forth in the Operating Permit.

(g) An Operating Permit is not transferable from one person to another person nor from one facility to another facility without prior approval from the health officer.

(h) The health officer may suspend or revoke either a Construction or an Operating Permit if the permit holder fails to comply with the provisions, stipulations, or compliance schedules provided in the permit. Suspension or revocation of a Construction or an Operating Permit shall become final ten (10) days after service of notice, exclusive of the day of service, on the holder thereof.

(i) No person shall willfully cause or permit the installation or use of any device or use of any means which, without resulting in a reduction in the total amount of air contaminants emitted, conceals or appears to minimize the emission of air contaminants which would otherwise violate these regulations. Air introduced for dilution purposes only is considered a circumvention of these regulations.

(j) No person shall be required to obtain or file a request for an Operating Permit due to ownership or operation of the following air contaminant sources unless specifically required to do so by the health officer:

(1) Mobile sources such as: automobiles, trucks, buses, locomotives, planes and boats.
(2) Fuel burning equipment of less than 500,000 BTU per hour capacity.
(3) Sources discharging less than 0.5 pounds per hour of non hazardous particulates from a single stack or less than 0.5 pounds per hour of non hazardous particulates from two or more stacks, whichever is more restrictive.
(4) Equipment used on farms for soil preparation, tending, or harvesting of crops or for preparation of feed to be used on the farm where prepared.
(5) Operations exempted under Section 3-16 (Open Burning) of these regulations.

Section 3-7 Sampling and Testing to Establish Air Contaminant Levels

(a) The health officer may at his discretion require the applicant for an Operating Permit to conduct or have conducted such tests as are necessary to determine the amounts of air contaminants emitted from any equipment or air cleaning device constructed or installed after the effective date of these regulations. Such tests shall be made at the expense of the applicant and shall be conducted by the most current method described in the Federal Register or by an equivalent method approved by the health officer.

(b) The health officer may conduct or cause to be conducted any test or tests of any equipment or air cleaning device constructed or installed on or before the effective date of these regulations if in his opinion the operations of such equipment or air cleaning device will result in emissions in excess of the limitations prescribed in this Chapter. Such tests shall be conducted by the most current method described in the Federal Register or by an equivalent method approved by the health officer. If such tests are conducted by the owner of the equipment or air cleaning device, or by his agent, such tests shall be made at the expense of the owner, and the health officer may require that such tests be conducted in the presence of his representative.

(c) The person responsible for the equipment or air cleaning device to be tested shall provide, at his expense, reasonable and necessary openings in the system or stack and safe and easy access thereto, to permit technically valid samples and measurements to be taken.

(d) The health officer may require the owner or operator of an air contaminant source, as a condition of his Operating Permit, to conduct or have conducted periodic tests to establish the amount of air contaminants emitted. The nature, extent and frequency of such required testing shall be specified in the Operating Permit. Such tests shall be made at the expense of the owner or operator and shall be conducted by the most current method described in the Federal Register or by an equivalent method approved by the health officer. The health officer shall be supplied with such data as stipulated in the Operating Permit.

Section 3-8 Monitoring of Source Emissions, Records, Reporting

(a) The health officer may require the owner or operator of any air contaminant source to install, use, and maintain such monitoring equipment as the health officer may prescribe; sample such emissions in accordance with methods as the health officer shall prescribe; and establish and maintain such periodic emission reports as required by the health officer.

(b) Each owner or operator of any air contaminant source directed by the health officer to monitor and report on specified air contaminants shall develop and submit a detailed monitoring program; and order and install sampling equipment within the following time schedule:

(1) Within sixty (60) days after designation by the health officer of those air contaminants to be monitored, the owner or operator of the air contaminant source shall submit a detailed monitoring program for approval by the health officer.

(2) Within thirty (30) days after the monitoring program has been approved in writing by the hearing officer, sampling and monitoring equipment shall be ordered.

(3) Within ninety (90) days after delivery of the equipment the owner or operator of the air contaminant source shall place said equipment in effective operation in accordance with its approved monitoring program.

(c) Records and reports as the health officer shall require on air contaminants or fuel shall be recorded, compiled, and submitted in a format as presribed by the health officer.

(d) Any records, reports, or information obtained under this Section shall be available to the public, except that upon a showing satisfactory to the health officer by any person that records, reports, or information, or particular part thereof, (other than emission data) to which the health officer has access if made public would divulge production or sales figures or methods, processes or production unique to such person, or would otherwise tend to affect adversly the competitive position of such person by revealing trade secrets, the health officer shall consider such record, report, or information or particular portion thereof confidential in the administration of this Chapter. Nothing herein shall be construed to prevent disclosure of such report, record, or information to Federal, State, or local air pollution control laws, or when relevant in any proceeding under this Chapter.

Section 3-9 Malfunction of Equipment, Reports Required

(a) In the case of shutdown of air pollution control equipment for necessary scheduled maintenance, the intent to shutdown such equipment shall be reported to the health officer at least twenty-four (24) hours prior to the planned shutdown. Such prior notice shall include, but is not limited to the following:

(1) Identification of the specific facility to be taken out of service as well as its location and permit number.

(2) The expected length of time that the air pollution control equipment will be out of service.

(3) The nature and quantity of emissions of air contaminants likely to occur during the shutdown period.

(4) Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of shutdown period.

(5) The reasons that it would be impossible or impractical to shutdown the source operation during the maintenance period.

(b) When any emission source, air pollution control equipment, or related facility breaks down in such a manner as to cause the emission of air contaminants for an anticipated or actual duration of at least twenty-four (24) hours in violation of these regulations, the person responsible for such equipment shall immediately notify the health officer of such failure or breakdown and provide a statement giving all pertinent facts, including the estimated duration of the breakdown. The health officer shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation.

Section 3-10 Variances

(a) Any person who owns or is in control of any plant, building, structure, establishment, process or equipment including a group of persons who owns or controls like processes or like equipment may apply to the Air Pollution Control Hearing Board, hereinafter referred to as "the Board", for a variance from rules or regulations governing the quality, nature, duration or extent of discharge of air contaminants. The application shall be accompanied by such information and data as the Board may require. The hearing held hereunder shall be conducted in accordance with the rules of evidence as set forth in Section 3-35 of this Chapter as now or hereafter amended. The Board may grant such variance, but only after public hearing on due notice, if it finds that:

(1) The emissions occurring, or proposed to occur do not endanger or tend to endanger human health, safety, or welfare, or do not cause or tend to cause property damage.

(2) Compliance with the rules or regulations from which variance is sought would produce serious hardship without equal or greater benefits to the public.

(b) No variance shall be granted or denied pursuant to this section until the Board has considered the relative interests of the applicant, other owners of property likely to be affected by the discharges and the general public.

(c) Any variance or renewal thereof shall be granted within the requirements of subsection (a) for time periods and under conditions consistent with the reasons therefor, and with the following limitations:

(1) If the variance is granted on the grounds that there is no practicable means known or available for the adequate prevention, abatement, or control of the air pollution involved, the variance shall be permitted only until the necessary means for prevention, abatement, or control become known and available, and the variance shall be subject to the taking of any sutstitute or alternate measures that the Board may prescribe.

(2) If the variance is granted on the ground that compliance with the particular requirement or requirements from which variance is sought will necessitate the taking of measures which, because of their extent or cost, must be spread over a considerable period of time, it shall be for a period not to exceed such reasonable time as, in view of the Board, is requisite for the taking of necessary measures. A variance granted on the ground specified herein shall contain a timetable for the taking of action in an expeditious manner and shall be conditioned on adherence to such timetable.

(3) Any variance or renewal granted shall be for a time period not to exceed one (1) year.

(d) Any variance granted pursuant to this section may be renewed on terms and conditions and for periods which would be appropriate on initial granting of the variance. If complaint is made to the Board on account of the variance, no renewal thereof shall be granted, unless, following public hearing on the complaint, the Board finds that renewal is justified. No renewal shall be granted except on application therefor. Any such application shall be made at least sixty (60) days prior to the expiration of the variance. Immediately upon a receipt of an application for renewal, the Board shall give public notice of such application in accordance with rules and regulations of the Board.

(e) A variance or renewal shall not be a right of the applicant or holder thereof, but shall be in the discretion of the Board. However, any applicant adversely affected by the denial or the terms and conditions of the granting of an application of a variance or renewal of a variance by the Board may obtain judicial review thereof in a court of competent jurisdiction.

(f) Nothing in this section and no variance or renewal granted pursuant hereto shall be construed to prevent or limit the application of the emergency provisions and procedures of Section 3-4 of this Chapter to any person or his property.

Sections 3-11, 3-12, 3-13, 3-14. Reserved.

Article II. Regulations

Section 3-15 Ambient Air Quality Standards

These ambient air quality standards, as shown in Table 1 shall not be construed, applied or interpreted to allow any deterioration of the existing air quality.

Section 3-16 Open Burning

(a) No person shall cause, suffer, allow or permit open burning of refuse, garbage, trade waste, trees, limbs, brush, or materials from salvage operations.

(b) Open burning as listed below may be conducted without permit subject to fire department approval and provided further that no public nuisance is or will be created by the open burning.

(1) Fires used for the cooking of food or for ceremonial or recreational purposes including barbecues and outdoor fireplaces.

(2) Fires set for the training and instruction of firemen or for research in fire protection or prevention.

(3) Smokeless flares or safety flares for the combustion of waste gases provided other applicable sections of this chapter are met.

(c) Exceptions to subsection (a) may be permitted if all of the following conditions are met:

(1) A request is filed with the health officer giving the reason why no method except open burning can be employed to dispose of the material involved, the amount and kind of material to be burned, the exact location where the burning will take place, and the dates when the open burning will be done.

(2) Approval is received from the health officer.

(3) Permission is secured from the fire department in the jurisdiction involved.

(4) The burning will be done between the hours of 9:00 a.m. and 4:00 p.m. or as authorized by the health officer.

(d) This grant of exemption will not relieve the person responsible for such burning from the consequences of any damages, injuries, or claims resulting from such burning.

Section 3-17 Regulation of Visible Emissions

(a) As used in this section, existing air contaminant source refers to such sources as were in operation or under construction on May 27, 1969, and new air contaminant sources refers to such sources as began construction after the effective date of these regulations.

(b) No person shall cause, suffer, allow or permit to be discharged into the atmosphere from any new air contaminant source, visible emissions with a density greater than No. 1 on the Ringelmann Chart or an opacity in excess of twenty (20) percent.

(c) No person shall cause, suffer, allow or permit to be discharged into the atmosphere from any existing air contaminant source, excepting incinerators, with a density greater than No. 2 on the Ringelmann Chart or an opacity in excess of forty (40) percent.

(d) On or after July 1, 1975, the provisions of subsection (c) shall no longer be applicable and all air contaminant sources shall be considered as new sources for the purpose of this section.

(e) No person shall cause, suffer, allow or permit to be discharged into the atmosphere from any incinerator, visible emissions with a density greater than No. 1 on the Ringelmann Chart or an opacity in excess of twenty (20) percent.

(f) Subsections (b) and (c) of this section shall not apply to smoke emitted during the cleaning of a fire, the building of a new fire or the blowing of soot from boiler surfaces, the shade or appearance of which is not darker than that designated as No. 3 on the Ringelmann Chart for a period or periods aggregating no more than three (3) minutes in any thirty (30) consecutive minutes.

(g) This section shall not apply when the presence of uncombined water is the only reason for the failure of the emission to meet the requirements of this section.

(h) This section shall not apply to visible emissions from fuel burning equipment used exclusively to provide space heating in a building containing not more than two (2) dwelling units.

Section 3-18 Fugitive Dust

No person shall cause, suffer, allow or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall include, but not be limited to, the following:

(1) Use, where possible, water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

(2) Application of asphalt, oil, water, or suitable chemicals on material stockpiles, and other surfaces which can create airborne dusts;

(3) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations;

(4) Covering, at all times when in motion, open bodied trucks transporting materials likely to become airborne;

(5) Conduct of agricultural practices such as tilling of land, application of fertilizers, etc. in such manner as to not create a nuisance to others residing in the area.

(6) The paving of roadways and their maintenance in a clean condition.

(7) The prompt removal of earth or other material from paved street which earth or other material has been transported thereto by trucking or earth moving equipment or erosion by water.

Section 3-19 Nuisance Abatement

When dust, fumes, gases, mist odorous matter, vapors, or any combination thereof escape from a building or equipment in such a manner and amount as to cause a nuisance or to violate any regulation, the health officer may order that the building or equipment in which processing, handling and storage are done be tightly closed and ventilated in such a way that all air and gases and air or gas-borne material leaving the building or equipment are treated by removal or destruction of air contaminants before discharge to the open air.

Section 3-20 Regulation of Process Particulate Emissions

(a) As used in this section, existing air contaminant sources refers to such sources as were in operation or under construction on the effective date of these regulations and new air contaminant sources refers to such sources as began construction after the effective date of these regulations.

(b) On or after July 1, 1972, no person shall cause, suffer, allow or permit the emission of particulate matter in any one hour from any existing air contaminant source in excess of the amount shown in Table 2 (section 3-27) for the process weight rate allocated to such source.

(c) No person shall cause, suffer, allow or permit the emission of particulate matter in any one hour from any new air contaminant source in excess of the amount shown in Table 3 (section 3-27) for the process weight rate allocated to such source.

(d) Irrespective of the maximum allowable emission as determined by the Process Weight Table 2 or Table 3 (section 3-27), the concentration of particulate process emission shall not be required to be less than 0.02 grains per standard cubic foot of stack gases unless a lesser concentration is found by the health officer to be necessary.

(e) Irrespective of the maximum allowable emission as determined by the Process Weight Table 2 and Table 3 (section 3-27), the maximum allowable concentration of particulate process emission shall be 0.25 grains per standard cubic foot of stack gases.

(f) When one or more sources are emitting particulates at rates in conformity with applicable maximum allowable emission rates and the ambient air quality standard for particulate matter is being exceeded, the health officer shall be responsible for setting an appropriate emission standard for each source contributing to the particulate matter in the ambient air, at such value as the health officer may consider necessary to achieve the desired air quality.

Section 3-21 Regulation of Particulate Matter from Ferrous Jobbing Cupolas

On or after July 1, 1973, no person shall cause, suffer, allow or permit the emission of particulate matter in any one hour from any existing ferrous jobbing cupola in excess of the amount shown in Table 4 (section 3-27), for the process weight rate allocated to such source. Existing cupola refers to any cupola in operation or under construction on the effective date of these regulations.

Section 3-22 Regulation of Particulate Matter from Fuel Burning Installations

No person shall cause, suffer, allow or permit particulate emissions in excess of the limitation set forth in this section.

(a) For fuel burning installations constructed on or before the effective date of these regulations having a total plant heat input up to and including 4,000 million BTU per hour, the maximum allowable particulate emission shall be determined from Fiqure 1, existing curve (section 3-27) and shall be achieved by July 1, 1973.

(b) For fuel burning installations constructed on or before the effective date of these regulations having a total plant heat input in excess of 4,000 million BTU per hour, the maximum allowable particulate emission shall be determined from Figure 1, existing curve (section 3-27), and shall be achieved by July 1, 1974.

(c) For fuel burning installations constructed after the effective date of these regulations, the maximum allowable particulate emission shall be determined by Figure 1, new curve (section 3-27), based on the total plant heat input to one or more stacks. This allowable emission standard must be attained at the time such fuel burning installation begins operation.

Section 3-23 Regulations of Particulate Matter from Incinerators

(a) No person shall cause, suffer, allow or permit the emissions of any incinerator having a charging rate of 2,000 pounds per hour or less, fly ash or other particulate matter in quantities exceeding 0.2 grains per cubic foot of flue gas at standard conditions corrected to 12 percent carbon dioxide by volume excluding the contribution of auxiliary fuel.

(b) No person shall cause, suffer, allow or permit the emissions from any incinerator having a charging rate greater than 2,000 pounds per hour, fly ash or other particulate matter in quantities exceeding 0.1 grains per standard cubic foot of flue gas at standard conditions corrected to 12 percent carbon dioxide by volume excluding the contribution of auxiliary fuel.

(c) No person shall cause, suffer, allow, or permit the emissions of particles of unburned waste or ash from any incinerator which are individually large enough to be visible while suspended in the atmosphere.

(d) No person shall construct, install, use or cause to be used any incinerator which will result in odors being detectable by sense of smell in any area of human use or occupancy.

(e) No person shall install or construct an incinerator to be used for disposal of combustible waste from dwelling units if such incinerator is to be used to burn such wastes produced by fewer than twenty-five (25) dwelling units.

(f) No person shall use or cause to be used any incinerator unless all components connected to or attached to, or serving the incinerator, including control apparatus, are functioning properly and are in use. Incinerators shall be operated so as to comply with recognized good practices.

(g) Incinerators having 2.5 cubic feet furnace volume or less used solely for the disposal of infective dressings and other similar material shall not be required to meet these emission standards.

Section 3-24 Sulfur Dioxide

(a) No person shall cause, suffer, allow or permit the emissions from any fuel burning installation constructed after the effective date of these regulations, gases containing more than 620 parts per million by volume (dry basis), corrected to 15 percent excess air, of sulfur oxides calculated as sulfur dioxide.

(b) After July 1, 1973, no person shall cause, suffer, allow or permit the emissions from any fuel burning installation in operation on or under construction prior to the effective date of these regulations, gases containing more than 2000 parts per million by volume (dry basis), corrected to 50 percent excess air, of sulfur oxides calculated as sulfur dioxide. All existing fuel burning installations must upgrade to comply with the new emission limit of 620 parts per million by volume (dry basis), corrected to 15 percent excess air, of sulfur oxides calculated as sulfur dioxide by July 1, 1975.

(c) No person shall cause, suffer, allow or permit the emissions from any air contaminant source, excluding fuel burning installations, constructed after the effective date of these regulations, in excess of 500 parts per million by volume (dry basis) of sulfur oxides calculated as sulfur dioxide.

(d) After July 1, 1973, no person shall cause, suffer, allow or permit the emissions from any air contaminant source, excluding fuel burning installations, in operation or under construction prior to the effective date of these regulations, gases containing more than 2000 parts per million by volume (dry basis) of sulfur oxides calculated as sulfur dioxide. All existing air contaminant sources must upgrade to comply with the new source emission limit of 500 parts per million by volume (dry basis) of sulfur oxides calculated as sulfur dioxide by July 1, 1975.

(e) Emission of sulfur oxides from sources constructed on or before the effective date of these regulations and exceeding the limit for such source as given in subsection (b) or (d) of this section, shall not be in violation of this section provided terms (1) or (2) along with terms (3) and (4) of this subsection are met.

(1) The owner or operator of a source emitting sulfur oxides shall demonstrate by ambient air monitoring that the source does not contribute to ground level concentrations of sulfur oxides in excess of eighty (80) percent of the secondary ambient air quality standard of section 3-15 of these regulations. Such ground level concentrations shall be determined by at least three (3) continuous recording sulfur dioxide monitoring stations and at least one recording meteorological station equipped to record wind speed and direction in the area surrounding the source. The air monitoring network must be approved by the health officer.

(2) The owner or operator shall demonstrate by calculation that the source does not cause or contribute to ground level concentrations of sulfur oxides in excess of eighty (80) percent of the secondary ambient air quality standard of section 3-15 of these regulations. Such ground level concentrations shall be determined by calculation utilizing a method(s) approved by the health officer. A sufficient number of ambient air monitors will be required to validate the calculated data.

(3) The owner or operator of an air contaminant source shall submit to the health officer a monthly summary of ground level concentrations as monitored or calculated in a format prescribed by the health officer. In addition, the air monitoring instruments shall be available for observation and testing by the health officer upon request.

(4) By October 1, 1972, the owner or operator of an air contaminant source in operation on the effective date of these regulations shall indicate in writing to the health officer, that the owner or operator wishes to utilize the option provided in this subsection in lieu of meeting the emission standards. Should an owner or operator fail to indicate his intention by the prescribed date, the emission standards shall apply.

(5) The options provided in this subsection shall not apply after July 1, 1977.

(f) When on or more sources are emitting sulfur oxides at rates in conformity with applicable maximum allowable emission rates, and the ambient air quality for sulfur dioxide is being exceeded, the health officer shall be responsible for setting emission standards for sources contributing to the sulfur oxides in the ambient air at such value as the health officer may consider necessary to achieve the desired air quality.

(g) When ambient air concentrations of sulfur dioxide have been determined to exceed applicable ambient air quality standards of section 3-15, the option provided in subsection (e) of this section shall not apply.

Section 3-25 Hazardous Air Contaminants

(a) Hazardous air contaminants are any air contaminants which may cause or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness. The health officer may from time to time, without public hearing, designate hazardous air contaminants and establish emission standards for such hazardous air contaminants as they are defined in the Federal Register.

(b) The owner or operator of one or more sources of hazardous air contaminants in existence on the date of designation of a hazardous air contaminant shall, within six (6) months from that date, file with the health officer information necessary to allow the evaluation of the air pollution potential of such emissions.

Section 3-26 Performance Standards for New Stationary Sources

Any person planning to construct a new installation, which might reasonably be expected to contribute to air pollution, or make modifications to an existing installation, which will or might reasonably be expected to increase or change the characteristics of the air contaminants discharged, shall comply with standards of performance for new stationary sources as such standards are published from time to time in the Federal Register.

Section 3-27 Figure 1; Table 1, Table 2, Table 3, and Table 4.

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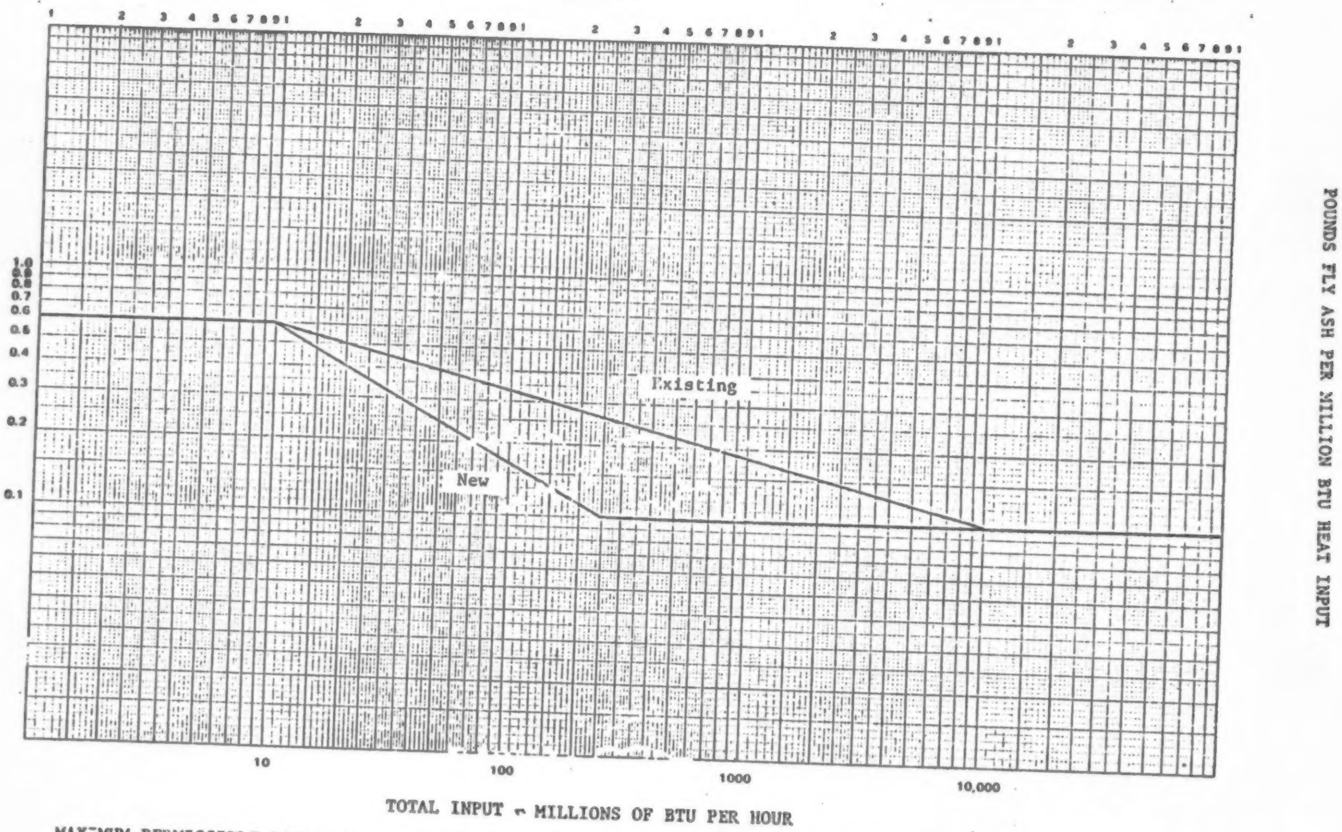
FIGURE 1



MAXIMUM PERMISSIBLE EMISSION OF FLY ASH AND OTHER PARTICULATE MATTER FROM FUEL BURNING INSTALLATIONS

TABLE I

AMBIENT AIR QUALITY STANDARDS

Contaminant	Primary Standard			Secondary Standard		
	Concentration		Averaging Interval	Concentration		Averaging Interval
	ug/m^3	ppm by vol.		ug/m^3	ppm by vol.	
Suspended Particulates	75	--	AGM	60	--	AGM
	260	--	24 hr.	150	--	24 hr.
Sulfur Dioxide	80	0.03	AAM	60	0.02	AAM
	365	0.14	24 hr.	260	0.139	24 hr.
				1,300	0.5	3 hr.
Carbon Monoxide	10,000	9.0	8 hr.	10,000	9.0	8 hr.
	40,000	35.0	1 hr.	40,000	35.0	1 hr.
Photo-Chemical Oxidant	160	0.08	1 hr.	160	0.08	1 hr.
*Hydro-carbons (non-methane)	160	0.24	3 hr. a.m.	160	0.24	3 hr. a.m.
Nitrogen Dioxide	100	0.05	AAM	100	0.05	AAM

* The hydrocarbon standard is for use as a guide in devising implementation plans to achieve oxidant standards.

Notes: 1. All values other than annual values are maximum concentrations not to be exceeded more than once per year.

2. PPM values are approximate only.
3. All concentrations relate to air at standard conditions of 25° C temperature and 760 millimeters of mercury pressure.
4. ug/m^3 - micrograms per cubic meter.
5. AGM - Annual Geometric Mean.
6. AAM - Annual Arithmetic Mean.

TABLE 2

EXISTING PROCESS EMISSION SOURCES ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE[a]

Process Weight Rate Lb/Hr	Rate of Emission Lb/Hr	Process Weight Rate Lb/Hr	Rate of Emission Lb/Hr
100	0.551	16,000	16.5
200	0.877	18,000	17.9
400	1.40	20,000	19.2
600	1.83	30,000	25.2
800	2.22	40,000	30.5
1,000	2.58	50,000	35.4
1,500	3.38	60,000	40.0
2,000	4.10	70,000	41.3
2,500	4.76	80,000	42.5
3,000	5.38	90,000	43.6
3,500	5.96	100,000	44.6
4,000	6.52	120,000	46.3
5,000	7.58	140,000	47.8
6,000	8.56	160,000	49.0
7,000	9.49	200,000	51.2
8,000	10.4	1,000,000	69.0
9,000	11.2	2,000,000	77.6
10,000	12.0	6,000,000	92.7
12,000	13.6		

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[a] Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation:

$$E = 4.10\ P^{0.67}$$

and interpolation and extrapolation of the data from process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation:

$$E = 55.0\ P^{0.11} - 40$$

Where E = rate of emission in lb/hr
P = process weight in tons/hr.

TABLE 3

NEW PROCESS EMISSION SOURCES
ALLOWABLE RATE OF EMISSION BASED ON PROCESS WEIGHT RATE[a]

Process Weight Rate Lb/Hr	Rate of Emission Lb/Hr	Process Weight Rate Lb/Hr	Rate of Emission Lb/Hr
50	0.03	16,000	13.0
100	0.55	18,000	14.0
200	0.86	20,000	15.0
400	1.32		
600	1.70	30,000	19.2
800	2.03	40,000	23.0
1,000	2.34	50,000	26.4
1,500	3.00	60,000	29.6
2,000	3.59	70,000	30.6
2,500	4.12	80,000	31.2
3,000	4.62	90,000	31.8
3,500	5.08	100,000	32.4
4,000	5.52	120,000	33.3
5,000	6.34	140,000	34.2
6,000	7.09	160,000	34.9
7,000	7.81	200,000	36.1
8,000	8.5	1,000,000	46.7
9,000	9.1		
10,000	9.7		
12,000	10.9		

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[a] Interpolation of the data in Table 2 for the process weight rates up to 60,000 lbs/hr shall be accomplished by the use of the equation:

$E = 3.59\ P^{0.62}$ $\qquad P \leq 30$ tons/hr

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr shall be accomplished by use of the equation:

$E = 17.31\ P^{0.16}$ $\qquad P > 30$ tons/hr

Where: E = Emissions in pounds per hour
P = Process weight rate in tons per hour

TABLE 4

ALLOWABLE RATE OF PARTICULATE EMISSION BASED ON PROCESS WEIGHT RATE EXISTING FERROUS JOBBING CUPOLAS

Process Weight (#/hr)	Maximum Weight Discharge (#/hr)
1,000	3.05
2,000	4.70
3,000	6.35
4,000	8.00
5,000	9.58
6,000	11.30
7,000	12.90
8,000	14.30
9,000	15.50
10,000	16.65
12,000	18.70
16,000	21.60
18,000	23.40
20,000	25.10

The emission rate for a process weight intermediate to those shown in the Table shall be determined by linear interpolation.

Sections 3-28, 3-29, 3-30, 3-31, 3-32, 3-33, 3-34. Reserved.

Article III. Air Pollution Control Hearing Board

Section 3-35 Created; Membership; Term of Office; Jurisdiction; Hearings; Appeals

(a) There is hereby created the Memphis and Shelby County Air Pollution Control Board, hereinafter referred to as "the Board" to be composed of seven (7) members to be appointed jointly by the Mayor of the City of Memphis and the Shelby County Commissioner of Health and confirmed by both the Memphis County Council and the Shelby County Quarterly Court. The Board shall consist of the following: One professional engineer knowledgeable in the field of air pollution control, one physician licensed to practice in Tennessee, one attorney licensed to practice law in Tennessee, a prepresentative of industry at large, and such other citizen members as may be appointed, except that industry may have no more than two representatives. No member of the Board shall hold any elective office or receive any governmental salary. All members shall serve without compensation.

(b) The terms of members shall be four (4) years except that of the initially appointed members, two shall serve for four (4) years, two shall serve for three (3) years, two shall servce for two (2) years and one shall serve for one (1) year as designated at the time of appointment. Whenever a vacancy occurs, the vacancy shall be filled for the unexpired term in the same manner as the original appointment. Initial appointments shall be for terms expiring June 1, 1973.

(c) The Board shall select annually a chairman from among its members. The Board shall hold at least four (4) regular meetings each year and such additional meetings as the chairman deems necessary. The health officer shall act as secretary to the Board and shall keep records of its hearings and other official actions. All hearings shall be held before and not less than a majority of the Board.

(d) The Board is hereby vested with the following jurisdication and authority:

(1) Grant, deny or revoke variance applications.

(2) To decide appeals from any decisions, rulings, or determinations of the health officer or his designated representative under this chapter.

(3) To hear appeals arising from the failure of the health officer or his designated representative to act within a reasonable period on complaints under this chapter.

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(e) Any person seeking a variance from the provisions of this chapter or any person taking exception to and who is uniquely affected by any decision, ruling, requirement, rule, regulation, or order of the health officer or by his failure to act within a reasonable amount of time may take an appeal to the Board as established by this section. Such appeals shall be made within fifteen (15) days after receiving notice of such decision, ruling, requirement, rule, regulations, or order or failure to act by filing a written notice of appeal directly to the Board specifying the ground thereof and the relief requested. Such an appeal shall act as a stay of the decision, ruling, requirement, rule, regulation, or order in question until the Board has taken final action on the appeal, except when the health officer has acted under section 3-4, "Emergency Order." The Board, not less than thrity (30) days after the date of filing an appeal, shall set a date for the hearing and shall give notice thereof, by mail to the interested parties.

(f) Hearings before the Board shall be conducted in the following manner:

(1) Notice of any and all hearings shall be given at least fifteen (15) days prior to the scheduled date of the hearing by public advertisement in a newspaper of general circulation in Memphis, Tennessee giving the date, time, place and purpose of the hearing.

(2) The chairman of the Board shall act as the hearing examiner to conduct such hearing.

(3) Any person seeking a variance of any party who is uniquely affected by the action of the health officer or his failure to act, may appear in person or by agent or attorney and present evidence both written or oral perinent to the questions and issues involved and may examine and cross examine witnesses.

(4) All testimony shall be under oath and recorded. The Board is authorized to have all testimony transcribed and a transcript of such testimony, if transcribed, shall be made available to the respondents or any party to the hearing upon payment of the normal fee, which shall not exceed the cost of transcribing such testimony.

(5) After due consideration of the written and oral statements, the testimony and arguments submitted at the hearing upon such complaint, or, upon default in appearance of the respondent on the return date specified in the formal notice of complaint, the Board shall issue and enter such final order to make such final determination as it shall deem appropriate, and shall immediately notify the respondent thereof, in writing, by certified mail. Such order or determination shall be approved by at least a majority of members to which the Board is entitled.

(6) Upon failure of the Board to enter a final order or determination within sixty days after the final argument of any such hearing, the respondent shall be entitled to treat for all purposes such failure to act as a finding favorable to the respondent.

(7) The burden of proof in such hearing shall be on the health officer or his duty authorized representative.

(8) Any person aggrieved by any final order or determination of the Board hereunder shall have judicial review thereof by common law writ of certiorari. No judicial review shall be available until and after all administrative remedies have been exhausted.

METROPOLITAN HEALTH DEPARTMENT

The Code of The
Metropolitan Government Of
Nashville and Davidson County, Tennessee

Section 4-1-1. Definitions

For the purposes of this chapter, the following words and phrases shall have the meanings respectively ascribed to them by this section:

Air contaminant. Any particulate matter or any gas or vapor or any combination thereof.

Air Pollution. The presence in the outdoor atmosphere of one or more air contaminants in such quantities, characteristics or duration as is or tends to be injurious to human health or welfare, or animal or plant life or health, or property, or would interfere with the enjoyment of life or property.

ASME. The American Society of Mechanical Engineers.

ASTM. The American Society of Testing and Materials.

Board. The Metropolitan Board of Health.

Breeching. Any conduit for the transport of products of combustion or processes to the atmosphere or to any intermediate device before being discharged into the atmosphere. Such term does not include the chimney or stack.

Cleaning fires. The act of removing ashes from the fuel bed or furnace.

Continuous monitoring. The sampling and analysis of air contaminants in a continuous or timed sequence, using techniques which will adequately effect actual emission levels or ambient concentrations on a continuous basis.

Department. The department of health of the Metropolitan Government, including the Board, agents, employees, and divisions.

Director. The chief administrative officer of the Metropolitan Board of Health or his designated representative.

Emission. The act of releasing or discharging air pollutants into the ambient air from any source.

Existing source. Any equipment, machine, device, article, contrivance, or installation which was in existence on the effective date of this chapter, except that any existing equipment, machine, device, article, contrivance, or installation which is altered, replaced or rebuilt that increases the amount of air contaminant emitted by such source or which results in the emission of any air contaminant not previously emitted shall be reclassified as a new source.

Fuel burning equipment. Any furnace, boiler, apparatus, stack, and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer.

Fugitive dust. Is any solid, airborne particulate matter emitted from any source other than a stack.

Hand-fired fuel burning equipment. Fuel burning equipment in which fresh fuel is manually introduced directly into the combustion chamber but not including fireplaces.

Hazardous material. Is any air contaminant which may cause, or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness and has been in the Federal Register.

Incinerator. Any equipment, device, or contrivance used for the destruction of refuse by burning, and all appurtenances thereto.

Internal combustion engine. Any engine in which the combustion of gaseous, liquid, or pulverized solid fuel takes place within one or more cylinders.

Mechanical fuel burning equipment. Fuel burning equipment incorporating means by which fuel is mechanically introduced into the combustion chamber.

Mist. A suspension of any finely-divided liquid in any gas or atmosphere.

Multiple chamber incinerator. Any article, machine, equipment, or contrivance or part of a structure used to dispose of refuse or garbage by burning, consisting of three or more refactory-lined combustion chambers in series, physically separated by refactory walls, interconnected by gas passage ports or ducts and employing adequate design necessary for maximum combustion of material to be burned.

Opacity. A state which renders material partially or wholly imprevious to ray of light and causes obstruction of an observer's view.

Open burning. Any fire from which the products of combustion are emitted directly into the open air without passing through a stack or chimney.

Particulate matter. Any material, except water in uncombined form, that is or has been airborne and exists as a liquid or a solid as standard conditions.

Person. Any individual natural person, trustee, court appointed representative, syndicate, association, partnership, firm, club, company, corporation, business trust, institution, agency, government corporation, municipal corporation, city, county, municipality, district, or other political subdivision, department, bureau, agency, or instrumentality of Federal, State, or local government, or other entity recognized by law as the subject of rights and duties. The masculine, feminine, singular, or plural is included in any circumstances.

Process equipment. Any equipment, device or contrivance for changing any materials whatsoever or for storage or handling of any materials, the use of existence of which may cause any discharge of air contaminants into the open air but not including that equipment specifically defined as "fuel burning equipment" or "incinerator" in this section.

Process weight. The total weight of all materials introduced into a source operation including solid fuels, but excluding liquids and gases used solely as fuels, and excluding air introduced for purposes of combustion.

Refuse. The inclusive term for solid waste products which are composed wholly or partly of such materials as garbage, sweepings, cleanings, trash, rubbish, litter, industrial solid waste or domestic solid waste, trees or shrub leaves, limbs, trunks, roots or droppings or trimmings, grass clippings, brick, plaster or other waste resulting from the demolition, alteration, or construction of buildings or structures, accumulated waste material, cans, containers, tires, junk or other such substances which may become a nuisance.

Ringelmann Chart. The chart published and described in the U.S. Bureau of Mines Information Circular 8333.

Salvage operation. Any operation conducted in whole or in part for the salvaging or reclaiming of any product or material.

Smoke. Small gasborne or airborne particles resulting from combustion operations and consisting of carbon and ash and other matter present in sufficient quantity to be observable.

Source. Any property, real or personal, which emits or may emit any air pollutant.

Stack. Any conduit, duct, vent, flue or opening of any kind whatsoever arranged to conduct any products to the atmosphere. Such term does not include breeching.

Standard conditions. A gas temperature of 70 degrees Fahrenheit and a gas pressure of 29.92 inches mercury absolute.

Stoker. Any mechanical device that feeds solid fuel uniformly onto a grate or hearth within a furnace.

Section 4-1-2. Visible Emission Regulations

(a) No person shall cause, suffer, allow or permit emission of smoke from any air contaminant source, the shade or appearance of which is as dark or darker than No. 1 of the Ringelmann Smoke Chart.

The provisions of this subsection of this section shall not apply to smoke emitted during the cleaning of a fire, the building of a new fire, or the blowing of soot from boiler surfaces. Under these conditions, smoke not darker than No. 3 on the Ringelmann Smoke Chart may be emitted for a period or periods aggregating no more than five (5) minutes in any sixty (60) consecutive minutes or more than twenty (20) minutes in any twenty-four (24) hour period.

The provisions of this subsection of this section shall not apply to the smoke resulting from any fire ignited for the purpose of training firemen or for research in fire protection or prevention, nor to uncontrollable emissions occasioned by breakdown of fuel-burning equipment or other failure which is not reasonably preventable, or by the maintaining and repair of air pollution control equipment.

(b) No person shall cause, suffer, allow or permit the discharge into the open air, from any single source of emission whatsoever, of any air contaminant of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection (a) of this section provided, that this subsection (b) shall not apply to vision opacity caused by uncombined water droplets.

(c) This section shall not apply to visible emissions from fuel burning equipment used exclusively for heating a dwelling of less than three dwelling units.

(d) The provisions of subsection (a) and (b) of this section shall not apply until October 7, 1973, for installations existing before October 7, 1968. In installations existing before October 7, 1968, no person shall cause, suffer, allow or permit emissions of smoke from any air contaminant source, the shade or appearance of which is as dark or darker than Number 2 of the Ringelmann Chart or an equivalent opacity (40%) for a period or periods aggregating no more than 5 minutes in any 60 consecutive minutes or more than 20 minutes in any 24-hour period. After October 7, 1973, all installations shall comply with the provisions of subsection (a) and (b) of this section.

Section 4-1-3. Regulation of importation, sale, transportation, use or consumption of solid and liquid fuels.

(a) It is unlawful for any person to burn, in any fuel burning equipment, any solid or liquid fuel containing in excess of two percent sulfur by weight. If such fuel is not reasonably available, an application for exemption may be made to the board of health, and the board, after considering the factors set forth below, shall allow exemption from this provision when the applicant demonstrates that their activities do not result in the condition of air pollution as defined in section 4-1-1 and further described in the goals set forth in section 4-1-18.

(b) In determining reasonable availability the factors to be considered by the board of health shall include, among others: Price, firmness of supply, extent of existing pollution and assurance of supply under adverse weather and natural disaster conditions. The board shall also consider various alternatives presented by the applicant such as flue gas treatment and stack height measures.

(c) The board, in its discretion, may review such exemptions from time to time and revise same when it finds such changes in circumstances which require additional action on the part of a fuel user to protect the air.

(d) This section shall not be effective until March 1, 1970. (68-554).

Section 4-1-4. Hazardous Air Contaminants

(a) Hazardous air contaminants are any air contaminant which may cause or contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness. The director may, from time to time, without public hearing, designate hazardous air contaminants and establish emission standards for such hazardous air contaminants as they are defined in the Federal Register.

(b) The owner or operator of one or more sources of hazardous air contaminants in existence on the effective date of designation of a hazardous air contaminant shall, within six months from the date, file with the director, information necessary to allow the evaluation of the air pollutant standpoint of such emissions.

Section 4-1-5. Open Burning Regulation

No person shall cause, suffer, allow or permit open burning except as specifically permitted in this Chapter.

(a) Ceremonial or recreational fires of reasonable size and duration. Such fires may not contain material such as plastics, rubber, or similar refuse.

(b) Fires set for the training and instruction of public or private fire-fighting personnel when approval is received from the Director.

(c) Smokeless or safety flares.

(d) Fires used for outdoor cooking where done with equipment or fireplace designed for such purposes and in a manner not offensive to persons in the vincinity thereof.

(e) Fires used for disposing of materials grown on that tract of land, when done with an approved device, at sites approved by the Director, and with a valid permit from the Director.

(f) Such other open burning as may be approved by the Director where there is no other practical, safe, and lawful method of disposal.

Section 4-1-6. Incinerator Regulations

(a) No person shall burn any refuse in any incinerator except in a multiple chamber incinerator having a rated capacity of one hundred pounds per hour or greater with adequate auxiliary heat or other approved means to prevent air pollution or an air pollution nuisance. Incinerators of other types may be constructed if in advance of construction, it can be demonstrated to the satisfaction of the Director that they are as effective as incinerators required under the provisions of this chapter insofar as air pollution is concerned. The burden of proof shall rest upon the person constructing or installing the incinerator. The restriction of a capacity of one hundred pounds per hour shall not apply to incinerators designed for and used exclusively as pathological incinerators.

(b) No person shall cause, suffer, allow or permit the emissions from any incinerator having a charge rate of 2,000 pounds per hour or less, particulate matter in quantities exceeding 0.2 grains per standard dry cubic foot of flue gases, adjusted to twelve percent carbon dioxide by volume excluding the contribution of auxiliary fuel.

(c) No person shall cause, suffer, allow or permit the emissions from any incinerator having a charge rate greater than 2,000 pounds per hour, particulate matter in quantities exceeding 0.08 grains per standard dry cubic foot of flue gases, adjusted to twelve percent carbon dioxide by volume excluding the contribution of auxiliary fuel.

(d) Tests to determine compliance with this section shall be performed as provided in Section 4-1-15.

Section 4-1-7. Regulations on Fuel Burning Equipment

(a) The emission of particulate matter resulting from the combustion of fuel from any installation of any fuel burning equipment or any stack connected thereto existing before the effective date of this chapter, in quantities exceeding the values specified in Table 1 is prohibited. The maximum allowable particulate emission limits as given in this section are based upon the total plant rate of heat input to one or more stacks. Where natural gas or liquified petroleum gas is used as a fuel, the BTU heat input from these fuels shall not be included.

TABLE I

Total Heat Input In Million BTU/Hr	Maximum Emission Rate In Lbs Per Million BTU Input
10 or less	0.60
20	0.50
50	0.39
100	0.33
500	0.22
1,000	0.18
5,000	0.12
10,000 or greater	0.10

Interpolation of the data in Table I shall be accomplished by the use of the equation: $E=1.09\ (Q)^{-0.2594}$, where E=Emissions in pounds per million BTU input, Q=Total heat input in million BTU/hr.

(b) The emission of particulate matter resulting from the combustion of fuel from any installation of fuel burning equipment or any stack connected thereto beginning operation on or after the effective date of this chapter, in quantities exceeding the values specified in Table II is prohibited.

TABLE II

Total Heat Input In Million BTU/Hr	Maximum Emission Rate in Lbs Per Million BTU Input
10 or less	0.60
20	0.41
50	0.24
100	0.16
200	0.11
250 or greater	0.10

Interpolation of the data in Table II shall be accomplished by the use of the equation $E=2.16\ (Q)^{-0.5566}$, where E=Emissions in pounds per million BTU input; Q=Total heat input in million BTU/hr.

Tests to determine compliance with this section shall be performed as provided in Section 4-1-15.

(c) No new coal burning equipment of less than one million BTU per hour input shall be installed.

(d) The operation of hand-fired fuel burning equipment is prohibited. This subsection (d) shall not apply to fuel burning equipment used exclusively for heating a dwelling of less than three dwelling units or the burning of wood as a fuel in residential fireplaces; excluding all pot bellied stoves.

(e) The burning of refuse in fuel burning equipment is prohibited, except in equipment specifically designed to burn refuse.

(f) The provisions of subsection (a) of this section shall not apply to any installations existing on the effective date of this chapter, the maximum allowable emissions limit shall be 0.60 pounds per million BTU input until October 7, 1973, after which all existing installations shall comply with the provisions of subsection (a) of this section.

Section 4-1-8. Regulation on Internal Combustion Engines

(a) No person shall cause, suffer, allow or permit the emission of visible air contaminants, the shade or appearance of which is dark or darker than No. 1 on the Ringelmann Smoke Chart or 20 percent opacity except for periods not exceeding five (5) consecutive seconds.

(b) It shall be unlawful for any pollution control device required by the Environmental Protection Agency, the Air Pollution Control Board of the State or the Metropolitan Health Department for the control of air pollution from motor vehicles to be removed or attended in any way to make them partially or completely inoperable.

(c) All buses and trucks registered in the metropolitan government area shall be equipped with smoke and odor elimination equipment within twelve months after which one or more such devices have been approved by the department or by the Environmental Protection Agency.

Section 4-1-9. Regulation of Process Emissions

This section applies to any operation, process, or activity except the burning of fuel for indirect heating in which the products of combustion do not come into direct contact with process materials and except the burning of refuse.

(a) No person shall cause, suffer, allow or permit the emission of gas containing sulfur oxides in excess of five hundred ppm (volume). All sampling of exhaust gases to determine compliance with this section shall be performed as provided in Section 4-1-15. For the purposes of this section, all sulfur present in gaseous compounds and containing oxygen shall be deemed to be present as sulfur dioxide.

(b) Process weight per hour means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion air are not. For a cyclical or batch operation, the process weight per hour is derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle. For a continuous operation, the process weight per hour is derived by dividing the process weight for a typical period of time.

(c) No person shall cause, suffer, allow or permit the emission of particulate matter in any one hour from any existing process source in excess of the amount shown in Table III for process weight allocated to such source.

TABLE III
ALLOWABLE RATE OF EMISSION BASED ON
PROCESS WEIGHT RATE

Process Weight Rate		Rate Of Emission	Process Weight Rate		Rate Of Emission
Lb/Hr	Tons/Hr	Lb/Hr	Lb/Hr	Tons/Hr	Lb/Hr
100	0.05	0.551	16,000	8.00	16.5
200	0.10	0.877	18,000	9.00	17.9
400	0.20	1.40	20,000	10.00	19.2
600	0.30	1.83	30,000	15.00	25.2
800	0.40	2.22	40,000	20.00	30.5
1,000	0.50	2.58	50,000	25.00	35.4
1,500	0.75	3.38	60,000	30.00	40.0
2,000	1.00	4.10	70,000	35.00	41.3
2,500	1.25	4.76	80,000	40.00	42.5
3,000	1.50	5.38	90,000	45.00	43.6
3,500	1.75	5.96	100,000	50.00	44.6
4,000	2.00	6.52	120,000	60.00	46.3
5,000	2.50	7.58	140,000	70.00	47.8
6,000	3.00	8.56	160,000	80.00	49.0
7,000	3.50	9.49	200,000	100.00	51.2
8,000	4.00	10.4	1,000,000	500.00	69.0
9,000	4.50	11.2	2,000,000	1,000.00	77.6
10,000	5.00	12.0	6,000,000	3,000.00	92.7
12,000	6.00	13.6			

Interpolation of the data in this table for process weight rates up to 60,000 lb/hr shall be accomplished by use of the equation: $E=4.10 P^{0.67}$ and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lb/hr shall be accomplished by use of the equation: $E=55.1 P^{0.11} -40$, where E=rate of emission in lb/hr and P=process weight rate in tons/hr.

(d) No person shall cause, suffer, allow or permit the emission of particulate matter from any process source beginning operation on or after the effective date of this chapter in excess of the amount shown in Table IV for the process weight allocated to such source.

TABLE IV

Process Weight Rate (Lbs/Hr)	Emission Rate (Lbs/Hr)
50	0.03
100	0.55
500	1.53
1,000	2.34
5,000	6.34
10,000	9.73
20,000	14.99
60,000	29.60
80,000	31.19
120,000	33.28
160,000	34.85
200,000	36.11
400,000	40.35
1,000,000	46.72

Interpolation of the data in Table IV for the process weight rates up to 60,000 lbs/hr. shall be accomplished by the use of the equation:

$$E = 3.59 P^{0.62} \quad P \quad 30 \text{ tons/hr.}$$

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr. shall be accomplished by use of the equation:

$E = 17.31 P^{0.16}$ P 30 tons/hr

Where: E = Emissions in pounds per hour

P = Process Weight rate in tons per hour.

(e) Irrespective of the maximum allowable emission as determined by either the process weight tables of subsections (c) or (d) of this section, the maximum allowable concentration of particulate process emissions shall be 0.25 grains per cubic foot of exhaust gases corrected to 70° F and 1 atmosphere.

(f) Subsections (c) and (d) of this section shall not apply to any new source, the construction or modification of which commences after the date of publication in the Federal Register of proposed standards which will be applicable to each source.

The owner or operator of any stationary source, covered by this subsection (f) shall meet the performance standards for New Stationary Sources as designated by the Environmental Protection Agency and published in the Federal Register. The directory may, from time to time, without public hearing, adopt regulations covering the New Stationary Sources Performance Standard as designated by the Environmental Protection Agency and published in the Federal Register.

Section 4-1-10. Regulation of Odors in Ambient Air

No person shall cause, suffer, allow or permit any emission of gases, vapors, or objectionable odors beyond the property line from any source whatsoever which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or, which causes or has a tendency to cause injury or damage to business or property, and constitute a nuisance.

Section 4-1-11. Use of Public Facilities or Highways

Any activities causing a reduction in vision or resulting in inference with normal use of public facilities or highways by an emission of dust, fume, gas, mist, odor, smoke, vapor or combinations thereof will constitute a safety hazard or an air pollution nuisance.

Section 4-1-12. Regulation of Fugitive Dust

No person shall cause, suffer, allow or permit the handling, transporting, or disposition of any substance or material which is likely to be scattered by the wind, or is susceptible to being wind-borne, without taking adequate precautions or measures to minimize atmospheric pollution. No person shall maintain or cause to be maintained any premises, open area, right of way, storage pile of materials, any construction, atleration, demolition or wrecking operation, or any other enterprise, which involves any material or substance likely to be scattered by the wind or susceptible to being wind-borne, without applying all such reasonable measures as may be required to prevent particulate matter from becoming air-borne. The Director may require such reasonable measures as may be required to prevent particulate matter from becoming airborne including but not limited to paving or frequent cleaning of roads, driveways, and parking lots, application of dust free surfaces, or the planting and maintenance of vegetative ground cover.

Section 4-1-13. Regulation on Laundries, Dry Cleaning Plants, Etc.

No person shall operate a laundry, dry cleaning plant or similar operation unless the following conditions are met:

(a) All driers shall be equipped with lint filters which will substantially prevent the expulsion of materials harmful to the public.

(b) Provision shall be made so that all vent pipes carrying solvent vapor are not directed toward any building openings within twenty feet.

(c) Where the discharge into the atmosphere of fume, gas, mist, lint, odor, smoke, vapor or any combination thereof results in repeated violations of this chapter, additional equipment to insure adequate control shall be provided.

Section 4-1-14. Measurement of Emissions of Air Contaminants

(a) The Director may require any person responsible for emission of air contaminants to make or have made at the owner's expense, tests to determine the quantity and quality of the emission of air contaminants from any source, whenever the director has reason to believe that an emission in excess of that allowed by this chapter is occurring. The director may specify testing methods to be used. The director may require that such tests be conducted in the presence of his representative. The director shall be given a copy of the test results in writing and signed by the person responsible for the tests. All tests and calculations shall be made under the direction of a professional engineer registered in the state or be a graduate of an accredited engineering school, and be experienced in his field of endeavor.

(b) At the completion of any new installation, or any significant alteration, the Director may require the owner or person responsible to conduct such tests as are necessary to establish the amount of air contaminants emitted from such equipment or control apparatus. Such tests shall be made at the expense of the owner and shall be conducted in a manner approved by the Director. The Director may require that such tests be conducted in the presence of his representative.

In all new installations, there shall be provided sampling ports of a size, number and location as the Director may require, safe access to each port, any other sampling and testing facilities as the Director may require.

(c) The Director may conduct tests of air contaminants from any source. Upon request of the Director, the person responsible for the source to be tested shall provide, at no expense to the Board, necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities, including a suitable power source, exclusive of instruments and sensing devices as may be necessary for proper determination of the level of air contaminants.

(d) The Director may require the owner or operator of any air contaminant source discharging air contaminants, at the expense of the owner or operator, to install, use, and maintain such monitoring equipment as the Director shall prescribe; sample such emissions in accordance with methods as the Director shall prescribe. Records and reports as the Director shall prescribe on air contaminant emissions and fuel analyses shall be recorded, compiled, and submitted in a format as prescribed by the Director.

(e) The Director may require the submission of air pollution information from any or all potential sources of air pollution for purposes of maintaining an air pollution emission inventory. Emission data obtained from owners or operators of stationary sources will be correlated with applicable emission limitations and other control measures and will be available to the public.

(f) When any fuel burning equipment, incinerator, control equipment, or process equipment breaks down in such a manner as to cause the emission of air contaminants in violation of this chapter for an anticipated or actual duration of at least twenty-four hours, the person responsible for such equipment shall immediately notify the Director of such failure or breakdown and provide a statement giving all pertinent information, including the estimated duration of the breakdown. The Director shall be notified when the condition causing the failure or breakdown has been corrected and the equipment is again in operation.

Section 4-1-15. Testing

(a) In order to establish a standard procedure for coal and fuel oil analysis, the following procedures or any amendment or modification thereof shall be used:

(1) The heat content of coal shall be determined according to ASTM method D-271-68 Laboratory Sampling and Analysis of Coal and Coke or ASTM method D-2015-66 Gross Caloric Value of Solid Fuel by the Adiabatic Bomb Calorimeter.

(2) The method of determining the ash and sulfur content in coal shall be that described in ASTM D-271-68 Laboratory Sampling and Analysis of Coal and Coke or equivalent method approved by the Board. All coal analysis and heat contents are to be made on a dry basis. Moisture content of coal is to be determined in all cases and results recorded to facilitate calculation of actual pollutants.

The method for determining the sulfur content of fuel oil shall be that described in ASTM D-129-54 Standard Method of Test for Sulfur in Petroleum Products and Lubricants by the Bomb Method. The method of determining the heat content of fuel oil shall be that described in ASTM D-240-64 Standard Method of Test for Heat of Combustion of Liquids by the Parr Bomb Calorimeter or other method giving comparable results.

(3) The Director is authorized to take any quantity of fuel which he deems necessary for the purpose of evaluation to determine compliance with this regulation. Where applicable, the following sampling methods will be used:

(a) For coal:

ASTM: D-492-48 (1958) Sampling Coal Classified According to Ash Content.

ASTM: D-2013-68 Preparing Coal Sample for Analysis.

ASTM: D-2234-68 Mechanical Sampling of Coal.

(b) For oil:

ASTM: D-270-65 Tentative Method of Sampling Petroleum Products.

(b) The method set forth in this subsection shall be applicable for determining compliance with emission standards:

(1) Sample and velocity traverses shall be determined by the method outlined in the Appendix of the Federal Register, Volume 36, No. 247, December 23, 1971.

(2) Determination of stack gas velocity shall be determined by the method outlined in the Appendix of the Federal Register, Volume 36, No. 247, December 23, 1971.

(3) Gas analysis for carbon monoxide, excess air and dry molecular weight shall be accomplished by the method outlined in the Appendix of the Federal Register, Volyme 36, No. 247, December 23, 1971.

(4) Moisture in stack gas shall be determined by the method as outlined in the Appendix of the Federal Register, Volume 36, No. 247, December 23, 1971.

(5) Determination of particulate matter from stationary sources shall be determined by the method outlined in the Appendix of the Federal Register, Volume 36, No. 247, December 23, 1971, with this added condition: the analytical results shall include particulate matter collected in the impinger train except for the new stationary sources required to meet the performance standards of Section 4-1-9, Subsection (f) of this Chapter.

Any method of continuous monitoring in stacks approved by the Director may be used in accordance with good professional practice.

(6) Determination of sulfur dioxide from stationary sources shall be determined by the method outlined in the Appendix of the Federal Register, Volume 36, No. 247, December 23, 1971.

(7) Determination of nitrogen oxide emissions from stationary sources shall be determined by the method outlined in the Appendix of the Federal Register, Volume 36, No. 247, December 23, 1971.

(8) Determination of sulfuric acid mist emission from stationary sources shall be determined by the method outlined in Appendix of the Federal Register, Volume 36, No. 247, December 23, 1971.

(c) Determination of ambient air sampling and analysis for suspended particulates, sulfur dioxide, carbon monoxide, photochemical oxidants, and nitrogen dioxide shall be by the methods outlined in the Federal Register, Volume 36, No. 158, Saturday, August 14, 1971. Any other method of monitoring that is approved by the Director may be used in accordance with good professional practice. The Director may, from time to time, determine methods of analysis for additional air contaminants as designed by the Environmental Protection Agency and published in the Federal Register.

(d) When new analytical methods become available which are superior to the methods stipulated in this section, the Board, upon the recommendation of the Director, may approve the new methods as alternatives to those set forth in this section.

Section 4-1-16. Registration and Permits

(a) Construction Permits

(1) It shall be unlawful for any person to install, erect, construct, reconstruct, alter, or add to, or cause to be installed, erected, constructed, reconstructed, altered, or added to, any fuel burning equipment, incinerator, process equipment, control device, or any equipment pertaining thereto, or any stack or chimney connected therewith, or to make or cause to be made any alteration or repairs which increases the amount of any air contaminant emitted by such source on which results in the emission of any air contaminant not previously emitted until application for a Construction Permit has been filed with the Metropolitan Health Department and plans and specifications applicable to the work have been submitted to the Director and a Construction Permit issued by him for such construction, installations, alterations or repairs. Applications for a construction permit shall be filed in duplicate in the offices of the Director on forms adopted by the Director and supplied by the Metropolitan Health Department along with a copy of plans and specifications. If, within thirty days of the receipt of the application, plans, specifications or other information required, the Director determines that the proposed source will operate in violation of this chapter or the source will prevent or interfere with attainment or maintenance of any national standard, he shall issue an order prohibiting the construction. installation, or establishment of the air contaminant source or sources. Issuance of a construction permit within the time prescribed herein shall be deemed a determination that the construction, installation, or establishment may proceed; provided that it is in accordance with the application, plans, specifications, or other information as submitted ~~to the~~ Director. This section shall not apply to fuel burning

equipment used exclusively for heating less than three dwelling units, or to gas, or fuel oil equipment of 500,000 BTU input or less or to internal combustion engines.

In addition to any other remedies available on account of the issuance of an order prohibiting construction, installation, or establishment of any fuel burning equipment, incinerator, process equipment, or control devices and prior to invoking any such remedies, the person aggrieved thereby shall, upon request in accordance with the provisions of this chapter and the rules and regulations adopted by the Board be entitled to a hearing before the Board. Following such hearing the order shall be affirmed, modified, or withdrawn by the Board.

The absence or failure to issue a rule, regulation or order to this section shall not relieve any person from compliance with any emission control requirements or with any other provisions of law.

(2) Maintenance or repairs or alterations which are minor in scope or do not change the capacity of any fuel burning equipment, incinerator, process equipment and which do not involve any change in the method of combustion or materially affect the emission of smoke, dust, gases, fumes, or other air contaminants therefrom may be made without placing an application for construction permit with the Metropolitan Health Department. Emergency repairs may be made prior to the application in the event an emergency arises and serious consequences would result if the repair were to be deferred. When such repair is made in an emergency, the application is required by this section shall be filed in the office of the Director within ten days after the start of such work.

(3) The plans and specifications, submitted pursuant to this section, concerning any fuel burning equipment, incinerator, process equipment, shall show the type, form and dimensions of all equipment and appurtenances thereto and stacks and dusts, together with the description and dimensions of the building or part thereof in which such equipment is to be located, the amount of work or the amount of heating to be done by such equipment and all provisions for air contaminants. Such plans and specifications shall also show the character of the fuel or refuse to be burned or process material, the maximum quantity to be burned per hour, and the operation requirements of the equipment. The plans and specifications shall show that the room or premises in which the fuel burning equipment or incinerator is to be located is provided with adequate ventilation to provide sufficient air for the combustion process and for the safety of people.

(4) The plans and specifications submitted pursuant to this section shall be prepared under the direction of, or approved by and bear the seal of, a professional engineer registered in this state or be a graduate of an accredited engineering school and experienced in his field of endeavor.

(5) The requirement for filing plans and specifications involving the installation, erection, construction, reconstruction, alteration, or repair of or addition to, any fuel burning equipment, incinerator, process equipment, or the building of pilot plants or processes to be used in or to become part of a secret process is hereby suspended upon the filing with the Metropolitan Health Department, in lieu of the filing of plans and specifications, of an affidavit of a responsible person to the effect that such equipment or process is to be so used. Such person may be required by the Board to furnish bond or other proof of financial responsibility. The suspension of the filing of such plans and specifications shall in no way relieve the person or persons responsible for the secret process from complying with all other provisions of this chapter.

(6) If the installation, erection, construction, reconstruction, alteration, addition or repair is not started within one year of the date of issuance of a construction permit or any extended period granted in writing by the Director, the construction permit shall become void.

(7) Any equipment covered by this section which is installed, erected, constructed, reconstructed, or altered without making application for a construction permit to the Department of Health and receiving this permit as provided herein may be sealed by the Director with the approval of the Board, the seal to remain in effect until all provisions of this chapter have been complied with. This remedy is not deemed to be the exclusive remedy.

(8) The receipt of a construction permit from the Metropolitan Health Department shall it be construed to indicate approval of the strength or safety of any equipment or to indicate compliance with the requirements of the Building Code of Metropolitan Nashville and Davidson County or any other ordinance thereof. Nor shall it relieve anyone from the necessity for obtaining a building, electrical, plumbing, or other permit it required by the provisions of this Code or other ordinance of Metropolitan Nashville and Davidson County.

(b) Temporary Operating Permit

(1) No person shall operate or cause to be operated any new or altered fuel burning equipment, incinerator, process equipment, control device, or any equipment pertaining thereto for which a Construction Permit was required, until application for a Temporary Operating Permit has been filed with the Metropolitan Health Department and a Temporary Operating Permit has been issued by the Director. Application for a Temporary Operating Permit shall be filed in duplicate in the offices of the Director, on forms adopted by the Director and supplied by the Metropolitan Health Department. The person responsible for the installation, construction, or alteration of any fuel burning equipment, incinerator, process equipment, control device, or any equipment pertaining thereto for which a Construction Permit is required, shall give notification to the Director when the work is completed and

ready for final inspection. The Director, with the approval of the Board, is hereby authorized to seal the equipment in operation for which Temperary Operating Permit was obtained as required by this section.

(2) Failure to operate successfully under test within the limitations and requirements of the chapter under a Temporary Operating Permit shall constitute sufficient grounds for ordering changes in the installation before an Operating Permit can be granted. Responsibility for proof, and all expenses incurred in running the tests under the Temproary Operating Permit shall be borne by the person owning, operating, or in charge of control of such equipment or their agents. The Director may waive the demonstration or test operation under the Temporary Operating Permit, but such waiver shall in no manner provide immunity from prosecution for violations of the requirements of this chapter.

(3) The Director or his authorized representative shall have the right to enter the owner's premises to inspect the installation and observe any test or operation of the equipment for which a Temporary Operating Permit was issued.

(4) A Temporary Operating Permit shall be valid for not in excess of six months after the date of issue and upon the expiration of said six months application for a Operating Permit must be made as is herein provided.

(c) Operating Permit

(1) After the Temporary Operating Permit has been issued and it is demonstrated to the satisfaction of the Director that the fuel burning equipment, incinerator, process equipment, control device, or any equipment pertaining thereto can be operated in compliance with this chapter, an application for an Operating Permit shall be filed in duplicate in the office of the Director on forms adopted by the Director and supplied by the Metropolitan Health Department. Said Operating Permit shall be kept posted on or near the installation for which it was issued. The Operating Permit shall properly identify the equipment to which it pertains and shall specify the class of fuel, and or type of raw material used, for which the equipment and appurtenances have been designed or which has been successfully used in the operating test. The owner or his agent shall be responsible for notifying the Director that equipment for which a Temporary Operating Permit has been issued, has been tested and is ready for permanent operation. With such notification the owner shall submit to the Director test and operation data, as required by the Director, obtained during the temporary operating period for use as evidence that the equipment will operate in compliance with all provisions of this chapter. The Director, with the approval of the Board is hereby authorized to seal the equipment in operation for which an Operating Permit has not been obtained, as required by this section.

The Operating Permit shall be issued for a one year period or for such longer period as the Director may designate. Applications for renewal of the Operating Permit shall be made in writing upon forms furnished by the Metropolitan Health Department and shall be made not less than sixty days prior to expiration of the Certificate for which renewal is sought. Disclosures of information, tests and other prerequisites to the issue of a Construction Permit, Temporary Operating Permit, or Operating Permit may be required by the Director prior to the renewal of an Operating Permit.

(2) The Director, as stated in Section 4-1-14, is authorized to conduct or cause to be conducted by the owner any test of any new or installed equipment, the operation of which, in his opinion, can be expected to result in emissions in excess of the limitations of this chapter, or when, in his judgment, there is evidence that any such equipment is exceeding any emission limitation prescribed in said chapter.

The Director may, at his discretion, accept certification tests submitted by the owner, if, in his judgement, these tests are sufficient to determine that the limitations of this chapter will not be exceeded.

(3) Any person operating an air contaminant source constructed on or before the effective date of this chapter shall file an application for an Operating Permit with the Director within six months of the effective date of this chapter. The application of an Operating Permit shall be filed in duplicate in the office of the Director on forms supplied by the Metropolitan Health Department. The Operating Permit shall be issued on evidence satisfactory to the Director that the operation of said source is in compliance with all sections of this chapter.

(d) Any permit issued in accordance with the provisions of this chapter is not transferable from one person to another person nor from one facility to another facility without prior approval from the Director.

(e) The Director may suspend or revoke either a Construction or an Operating Permit if the permit holder fails to comply with the provisions, stipulations, or compliance schedule provided in the permit.

(f) No person shall be required to obtain or file a request for a Construction and Operating Permit due to ownership or operation of the following air contaminant sources unless specifically required to do so by the Director:

(1) Mobile sources such as automobiles, trucks, buses, locomotives, planes, and boats.

(2) Fuel burning equipment of less than 500,000 BTU/Hr. capacity.

(3) Sources discharging less than 0.5 lbs/hr of none hazardous particulates from a single stack or less than 2.0 lbs/hr of none hazardous particulates from two or more stacks, whichever is more restrictive.

(4) Equipment used on farms for soil preparation to tending of crops or for preparation of feed to be used on the farm where prepared.

Section 4-1-17. Fees For Permits

The Metropolitan Board of Health by rule or regulation may prescribe and provide for the payment and collection of reasonable fees for the issuance of all permits as specified in Section 4-1-16. All fees collected by virtue of this Chapter shall be deposited regularly with the Metropolitan Treasurer.

Section 4-1-18. Ambient Air Quality Standards

The Ambient Air Quality Standards define levels of air quality believed adequate with an appropriate margin of safety to protect the public welfare from any known anticipated adverse effects by the pollutant.

These ambient air quality standards shall not be construed, appeared on interpeted to allow any significant deterioration of the existing air quality in any section of Davidson County.

AMBIENT AIR QUALITY STANDARDS

Pollutant	Concentration	Remarks
1) Suspended Particulates	60 micrograms/m^3	Annual geometric mean.
	150 micrograms/m^3	24-hr. maximum not to be exceeded more than once a year.
2) Sulfur Dioxide	0.02 ppm	Maximum annual average.
	0.10 ppm	24-hr. average not to be exceeded more than once a year.
	0.50 ppm	Maximum 3-hr. concentration not to be exceeded more than once a year.

3)	Nitrogen Dioxide	0.05 ppm	Annual arithmetic mean.
4)	Carbon Monoxide	9 ppm	8-hr maximum not to be exceeded more than once a year.
		35 ppm	1-hr maximum not to be exceeded more than once a year.
5)	Hydrocarbon	0.24 ppm	3-hr maximum not to be exceeded more than once per year.
6)	Oxidant	0.08 ppm	1-hr maximum not to be exceeded more than once a year.
7)	Dustfall	10 tons/mi^2/mo.	3-mo average above background in all areas except those zoned heavy industrial.
		15 tons/mi^2/mo.	3-mo average above backgound in zoned heavy industrial areas.
8)	Soil Indix	0.5 Coh per 1,ooo lineal feet	Annual geometric mean.
		3.0 Coh per 1,000 lineal feet	Not to be exceeded over 1 day in any consecutive 100 day period.
9)	Suspended Sulfate (analysis of High volume filters)	4 micrograms/m^3	Allowable maximum annual average.
		12 micrograms/m^3	Not to be exceeded over 1 percent of the time.
10)	Sulfate	0.25 mgSO_3/100 cm^2/day	Maximum annual average.
		0.50 mgSO_3/100 cm^2/day	Maximum month average.
11)	Hydorgen Sulfide	0.05 ppm	½-hr average not to be exceeded over 2 percent per year.
		0.03 ppm	½-hr average not to be exceeded over 2 times in any 5 consecutive days.

Section 4-1-19. Powers and Duties of the Board

(a) There is hereby imposed upon the Board in addition to those functions and duties set forth in article 10, chapter 1, of the Charter of the Metropolitan Government, the authority, power and duty to adopt, promulgate and enforce such rules and regulations to carry out the provisions of this chapter which the Board deems necessary in order to achieve and maintain such levels of air quality as will protect human health and safety and to the greatest degree practical, prevent injury to plant life and property, foster the comfort and convenience of the inhabitants of the Metropolitan Government area and promote the economic and social development of the Metropolitan Government area; provided, that such rules and regulations shall not conflict with any laws of the state, the Charter or the Metropolitan Government or any ordinance of the Metropolitan Government, nor shall such rules and regulations exceed the limits of authority granted to the Board in this Chapter.

The Director shall recommend to the Board such rules and regulations as he considers necessary consistent with the general intent and purpose of this chapter to prevent, abate, and control air pollution. Thereupon, the Board shall fix and hold a public hearing, as provided herein, with respect to the rules or their amendments, and the Board may approve or reject such recommended rules or amendments, in whole or in part, or it may modify and approve them as so modified. Thereafter, the Board may amend or add to the rules and regulations, on recommendation of the Director, or on its own initiative, but only after a public hearing on the proposed amendments.

Such rules and regulations or any amendments thereto shall be approved by the Director as law as to legality, and the same shall then be filed with the secretary of the Board and the Metropolitan clerk. After such rules and regulations or any amendments thereto of the board have been so adopted in the manner herein provided, such rules and regulations shall be the force and effect of law.

(b) In exercising its power to prevent, abate, and control air pollution, the Board shall have the following powers and duties:

(1) Develop and prepare a general comprehensive plan for prevention, control and abatement of air pollution recognizing varying requirements for different areas of the Metropolitan Government.

(2) Establish, modify, or amend, after public hearing, a system of permits applicable to installation or modification of facilities capable of becoming a source of air pollution.

(3) Establish, modify, or amend without hearing, rules and regulations with respect to procedural aspects of (a) hearings; (b) filing of reports and orders; (c) issuance of permits; and (d) all other matters not specifically requiring a hearing.

(4) Require that any person whom the Board has reason to believe is or may be about to be causing or contributing to air pollution to furnish the Board pertinent information required by it in the discharge of its duties under this chapter; provided, that no such person shall be required to disclose any secret formulae, processes, or methods used in any manufacturing operation carried on by him or under his direction.

(5) Cause to be instituted in a court of competent jurisdiction, legal proceedings to compel compliance with any provision of this Ordinance or with any order or determination issued by the Board.

(6) Collect and disseminate information relative to air pollution, encourge voluntary co-operation of affected persons or groups in preserving and restoring a reasonable degree of air purity and advise, consult and co-operate with other agencies, persons or groups in matters pertaining to air pollution.

(7) Prescribe and provide, at its discretion, for payment and collection of reasonable fees for the review of plans and specifications to be submitted pursuant to this chapter. Such fees shall be deposited with the Metropolitan Treasurer and shall be used to supplement the budget of the Metropolitan Health Department.

(8) Adopt, promulgate and enforce such other rules and regulations which the Board deems necessary to carry out the provisions of this chapter; provided, that nothing in this chapter shall be deemed to grant the Board any jurisdiction or authority with respect to air pollution existing solely within commercial or industrial plants, works or shops or to affect the relationship between employers and employees with respect to or arising out of any condition or air pollution.

Section 4-1-20. Facts and Circumstances to be Considered by the Board

In the exercise of its power to prevent, abate and control air pollution, the Board shall give due consideration to such pertinent facts and circumstances, including but not limited to:

(a) The character and degree of injury to, or interference with, the protection of the health, general welfare and physical property of the residents of the Metropolitan Government area.

(b) The social and economic value of the air contaminant source.

(c) The suitability or unsuitability of the air pollution source to the area in which it is located.

(d) The technical practicability and economic reasonableness of reducing or eliminating the emission of such air contaminants.

Section 4-1-21. Procedure for Public Hearings by Board of Health

No standard, rule or regulation shall be adopted by the Board pursuant to section 4-1-19, and no amendment, repeal or modification thereof, shall take effect except after a public hearing has been held thereupon before at least a majority of the members to which the Board is entitled. Hearings before the Board shall be conducted in the following manner:

(a) A public notice of any and all public hearings pursuant to this chapter shall be given at least thirty days prior to the scheduled date of the hearing by public advertisement on three consecutive days in a newspaper or newspapers of general circulation within the Metropolitan Government area, giving the date, time, place and purpose of such hearing.

(b) At such hearings, opportunity to be heard by the board with respect to the subject thereof shall be given to any interested person. Any interested persons, whether or not heard, may submit, in writing, a statement of their views on the proposed rules and regulations prior to or within seven (7) days subsequent to such hearings.

(c) No rule or regulation of the Board, or any amendment, repeal or modification thereof, shall be deemed adopted or in force and effect until it shall have been approved, in writing, by at least the majority of the members to which the Board is entitled and the same shall have been approved by the Director of law as to its legality and a certified copy thereof has been filed with the Metropolitan clerk.

(d) Any person heard or represented at such hearing or requesting notice shall be given, without charge, written notice of the action of the Board with respect to the subject thereof. A reasonable record shall be made and maintained of any such public hearing and the testimony at such hearings may or may not be under oath, at the discretion of the Board. Copies of the proceedings at the public hearing shall be made available only upon the payment of the fee therefor, which fee shall be set by the Board of Health.

Section 4-1-22. Public Hearings on Complaints Authorized to be Filed With the Board

In addition to the other remedies available, the Director is hereby authorized to file with the Board a complaint of an alleged violation, and the Board may cause to have issued and served upon the person complained against a formal notice of complaint, which shall specify the provision of this chapter of which such person is said to be in violation and a statement of manner and extent to which, if applicable, such person is said to violate this chapter, and shall require the person complained against to answer the charges of such formal complaint at a hearing before the Board. Such hearing before the Board shall be conducted in the following manner:

(a) Such hearings shall be held before the majority of members to which the Board is entitled at a time not less than thirty days nor more than sixty days after the date of notice.

(b) The chairman of the Board is hereby designated as the hearing examiner to conduct such hearing. A complete record of the hearing shall be made for review by the members of the Board.

(c) The respondent to such formal complaint may file a written answer thereto and may appear at such hearing in person or by representative, with or without counsel, and may make oral argument, offer testimony or cross-examine witnesses or take any combination of such actions.

(d) All testimony shall be under oath and recorded. The Board is authorized to have all testimony transcribed and a transcript or such testimony, if transcribed, shall be made available to the respondents or any party to the hearing upon payment of the normal fee, which shall not exceed the cost of transcribing such testimony.

(e) After due consideration of the written and oral statements, the testimony and arguments submitted at the hearing upon such complaint, or, upon default in appearance of the respondent on the return date specified in the formal notice of complaint, the Board shall issue and enter such final order or make such final determination as it shall deem appropriate, and shall immediately notify the respondent thereof, in writing, by certified mail. Such order or determination shall be approved, in writing, by at least a majority of members to which the Board is entitled.

(f) Upon failure of the Board to enter a final order or determination within sixty days after the final argument of any such hearing, the respondent shall be entitled to treat for all purposes such failure to act as a finding favorable to the respondent.

(g) The burden of proof in such hearings shall be on the Director.

Section 4-1-23. Variances and Public Hearing Thereon

(a) Any person seeking a variance from the provisions of this chapter or from the rules and regulations adopted by the Board pursuant to this chapter shall do so by filing a petition for variance with the Director. The Director shall promptly investigate such petition and make recommendations to the Board as to the disposition thereof. The Board may grant such variance if it finds that (1) the emissions occurring or proposed to occur, do not endanger or tend to endanger human health or safety, and (2) compliance with the provisions of this chapter and the rules or regulations from which variance is sought would produce serious hardship without equal or greater benefits to the public.

(b) Upon receiving the recommendation of the Director, the Board may, if such recommendation is for the granting of a variance, do so without hearing. If the recommendation of the Director is against the granting of a variance, or the Board, in its discretion, concludes that a hearing would be advisable, then a hearing shall be held not later than sixty days after receipt of a recommendation from the Director. Hearings will be conducted in the following manner:

(1) The petitioner shall be given written notice at the earliest practicable time as to the time and place of such hearing.

(2) The chairman of the Board shall serve as a hearing examiner to conduct hearings, and a complete record of the hearing shall be made for review by the Board members.

(3) All testimony shall be recorded and may or may not be under oath, at the discretion of the Board. The transcript so recorded shall be made available to the petitioner or any party to the hearing upon the payment of the fee for transcribing such testimony.

(4) The Board in considering the granting of a variance shall give due consideration to the equities of the petitioner and others who may be affected by granting or denial of the petition.

(5) The Board may make the granting of a petition for variance contingent upon such other requirements or restrictions on the petitioner as the Board may deem appropriate and reasonable.

(6) Any variance granted shall be for a period not to exceed one year, except as hereinafter provided, but may be extended from time to time by the action of the Board.

(c) If the variance is granted on the ground that there is no practicable means known or available for the adequate prevention, abatement or control become known and available, and subject to the taking of any substitute or alternate measures that the Board may prescribe.

(d) If the variance is granted on the ground that compliance with the particular requirement or requirements from which variance is sought will necessitate the taking of measures which, because of their extent or cost, must be spread over a considerable period of time, it shall be for a period not to exceed such reasonable time as, in the Board, is requisite for the taking of the necessary measures. A variance granted on the ground specified herein shall contain a timetable for the taking of action in an expenditious manner and shall be conditioned on adherence to such timetable.

(e) The Board shall issue and give to the petitioner, in writing, ~~within~~ sixty days following receipt of the recommendation of the Director when no hearing is held, its final order or determination. Such order or determination shall be approved by at least the majority of members to which the Board is entitled.

(f) Upon failure of the Board to issue a final order or determination within sixty days after the final argument in any such hearing or within sixty days following receipt of the recommendation of the Director when no hearing is held the petitioner shall be entitled to treat for all purposes such failure to act as a granting of the variance requested.

(g) The burden of proof in such hearings shall be upon the petitioner.

(h) Nothing in this section and no variance or renewal thereof granted pursuant hereto shall be construed to prevent or limit the application of the emergency provisions and procedures of this chapter to any person or his property.

Section 4-1-24. Emergencies

(a) Any other provisions of law to the contrary notwithstanding, if the Director finds that a generalized condition of air pollution exists and that it creates an emergency requiring immediate action to protect human health and safety, the Director shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air contaminants. Upon issuance of any such order, the Director shall fix a place and time, not later than twenty-four hours thereafter, for a hearing to be held before the Board. Such hearing shall be held in comformity with the provisions of Section 4-1-22, insofar as applicable. Not more than twenty-four hours after the commencement of such hearing, and without adjournment thereof, the Board shall affirm, modify, or set aside the order of the Director.

(b) In the absence of a generalized condition of air pollution of the type referred to in subsection (a) of this section, but if the Director finds that emissions from the operation of one or more air contaminant sources is causing or may tend to cause imminent danger to human health or safety, he may order the person responsible for the operation in question to reduce or discontinue operations immediately, without regard to the provisions of this chapter. In such event, the requirements for hearing affirmance, modification, or setting side of orders set forth in subsection (a) of this section shall apply.

Section 4-1-25. Air Pollution Declared a Nuisance; Injunctive Relief

Any person violating the provisions of this chapter by exhausting into the atmosphere an air contaminant in excess of that permitted by this chapter is hereby declared to be creating a nuisance. The Board may cause to be instituted a civil action in any court of competent jurisdiction for injunctive relief to prevent violation of any section of this chapter.

Section 4-1-26. Co-ordination Between Health Department, Department of Codes Administration and Planning Commission With Respect to Approval of Installation, Land-Use Plans and Zoning Regulations

The department of Codes Administration, in the issuance of permits, and the planning commission, in the preparation and approval of land-use plans, shall co-ordinate work in conjunction with the Metropolitan Health Department through the provisions of this chapter and the rules and regulations adopted by the Board so as to achieve and maintain such levels of air quality as will protect human health and safety and, to the greatest degree practical, prevent injury to plant life and property, foster the comfort and convenience of inhabitants of the Metropolitan Government area and promote the economic and social development of the Metropolitan Government area.

Section 4-1-27. Severability

The provisions of any part, section, subsection, paragraph, phrase or clause of this chapter that shall be adjudged invalid or unconstitutional by any court of competent jurisdiction, the judgment shall not affect, compare, or invalidate the remainder of this chapter, but should be confined in its operation to the part, section, subsection, paragraph, phrase or clause of this chapter that shall not be directly involved in the controversy in which such judgment shall have been redeemed.

Regulation No. 1

Prevention, Abatement and Control of Air Control Contaminants From Open Burning

1. Purpose

This regulation is adopted for the purpose of preventing, abating, and controlling air pollution caused by air contaminants discharged into the air from open burning.

2. Definitions (as used in this regulation)

Air Curtain Destructor - A device employing an air blower with a pit incinerator approved by the Director of Health.

Approved - Means approved in writing by the Director of Health.

Director - The chief administrative officer of the Metropolitan Board of Health or his designated representative.

Open Burning - Any fire from which the products of combustion are emitted directly into the open air without passing through a stack or chimney.

3. Open Burning Prohibited

No person shall cause, suffer, allow or permit open burning except as specifically permitted by this regulation.

4. Exceptions to Prohibition

Open burning as listed below may be conducted, subject to the specified limitations and provided further that no public nuisance is or will be created by such open burning. This grant of exemption shall in no way relieve the person responsible for such burning from the consequences of or the damages or injuries resulting from such burning.

a. Domestic burning of leaves and small tree limbs, less than three inches in diameter, at a residence where collection for such material is not available. The determination of availability will be made by the Director. Burning of trees or limbs cut as a commercial service by tree surgeons or other persons is prohibited.

b. Ceremonial or recreational fires of reasonable size and duration. Such fires may not contain material such as rubber, plastics or similar fuse.

c. Fires set for the training and instruction of public or private fire-fighting personnel when approval is received from the Director.

d. Smokeless emergency or safety flares.

e. Fires used for disposing of materials grown on that tract of land, provided the following conditions are met:

   (1) Burning is done using an air curtain destructor or other approved device, when such devices are operated in a manner satisfactory to the Director, and with a valid permit obtained from the Director.

   (2) The burning will take place on days and hours designated by the Director. Designated days of burning will always be tentative, and will be regulated according to weather conditions.

   (3) Within the jurisdiction of the Fire Marshal for the Metropolitan Government of Nashville and Davidson County, permission must be obtained indicating that no safety hazard will be created by this burning.

f. Failure to comply with these conditions will result in revocation of the permit.

5. Nothing in this regulation is intended to permit any practice which is a violation of any statute, ordinance or regulation.

Regulation No. 2

Prevention, Abatement, and Control of Air Contaminants From Materials Subject to Becoming Windborne

1. Purpose

This regulation is adopted for the purpose of prevention, abating, and controlling air pollution caused by material becoming windborne.

2. Definitions

Approved - Means approved in writing by the Director of Health or his representative.

Automobile and/or Truck Sales Lot: Any land area used or intended to be used for the display and/or sale of passenger automobiles and/or commercial vehicles.

Director - The chief administrative officer of the Metropolitan Board of Health or his designated representative.

Parking Lot: Any land area used or intended to be used for the storage of passenger automobiles and/or commercial vehicles.

Particulate Matter: Matter, other than uncombined water, which is suspended in air or other gases, in a finely divided form, as a liquid or solid at standard conditions.

Vehicles: A self-propelled mechanism or other apparatus which is not ordinarily permanently installed in one location, but is used in various places over a wide area.

3. Automobile and/or Truck Parking and Sales Lot or private Roadway-Surfacing: (This section shall not apply to residential driveways.)

No person shall maintain or cause to be maintained any parking lot or automobile and/or truck sales lot or machinery sales lot, or use any real property for a private roadway, or a driveway, or any building, structure, or premises, open area, storage pile of material, vessels, or vehicle, or construction, alteration, demolition, or wrecking operation, or any other enterprise which has or involves any matter, material or substance likely to be scattered by the wind or susceptible to being windborne, without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. The Director may require such reasonable measures as may be necessary to prevent particulate matter from becoming airborne including but not limited to paving or frequent cleaning of roads, driveways, and parking lots, application of dust free surfaces, application of water; and the planting and maintenance of vegetative ground cover.

4. Handling

It shall be unlawful for any person to cause or permit the handling, loading, reloading, unloading, storing, transferring, transporting, or scattering of any material or other substance which is likely to be scattered by the wind, or is susceptible to being windborne without taking reasonable measures or precautions so as to minimize atmospheric pollution.

5. Trucking

Trucks carrying material subject to becoming airborne shall be operated in such a manner as to keep such airborne material to a minimum by such measures as wetting the load, covering the load with canvas, lessening the load, or other acceptable means.

6. Drilling

It shall be unlawful for any person to conduct drilling in or through rock unless wet drilling or some other approved type dust-control devices have been installed to minimize atmospheric pollution.

7. Sandblasting

It shall be unlawful for any person to conduct a sandblasting operation without applying all such reasonable measures as may be required to prevent particulate matter from becoming airborne. The Director may require such reasonable measures as shrouding the operator and area being cleaned, wet sandblasting, or the use of any other approved type dust-control device to prevent particulate matter from becoming airborne.

8. This regulation shall not apply to agricultural operations including tillage, planting, cultivating, or harvesting within a field, the moving of livestock on foot, or hauling of produce within the confines of a farm.

9. Nothing in this regulation is intended to permit any practice which is a violation of any statute, ordinance, or regulation.

Regulation No. 4

Emission Standards
for
Hazardous Air Pollutants
(Asbestos, Beryllium & Mercury)

The following regulation pertains to the emission standards for hazardous pollutants and the permitting, testing, and reporting requirements of any source emitting these hazardous pollutants in Metropolitan Nashville and Davidson County. These regulations are proposed as provided for in Section 4-1-4 and 4-1-19, Chapter Four of the Metropolitan Code of Law.

Section 4-1 Definitions

As used in this regulation, all terms not defined herein shall have the meaning given them in Chapter Four, Subchapter One, "Air Pollution Control Ordinance," Section 4-1-1 of the Metropolitan Code.

(a) Active section of disposal site - means any section of a disposal site other than an inactive section.

(b) Adequately wetted - means sufficiently mixed or coated with water or an aqueous solution to prevent dust emissions.

(c) Alternative method - means any method of sampling and analyzing for an air pollutant which is not a reference method or an equivalent method but which has been demonstrated to the Director's satisfaction to produce, in specific cases, results adequate for his determination of compliance.

(d) Asbestos - means actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite.

(e) Asbestos containing waste material - means any waste which contains commercial asbestos and is generated by a source subject to the provisions of this subpart, including asbestos mill tailings, control device asbestos waste, friable asbestos waste material, and bags or containers that previously contained commercial asbestos.

(f) Asbestos material - means asbestos or any material containing asbestos.

(g) Asbestos mill - means any facility engaged in the conversion or any intermediate step in the conversion of asbestos ore into commercial asbestos. Outside storage of asbestos material is not considered a part of such facility.

(h) Asbestos tailings - means any solid waste product of asbestos mining or milling operation which contains asbestos.

(i) Beryllium - means the element beryllium. Where weights or concentrations are specified, such weights or concentrations apply to beryllium only, excluding the weight or concentration of any associated elements.

(j) Beryllium alloy - means any metal to which beryllium has been added in order to increase its beryllium content and which contains more than 0.1 percent beryllium by weight.

(k) Beryllium-containing waste - means material contaminated with beryllium and/or beryllium compounds used or generated during any process or operation performed by a source subject to this regulation.

(l) Beryllium ore - means any naturally occurring material mined or gathered for its beryllium content.

(m) Cell room - means a structure(s) housing one or more mercury electrolytic chlor-alkali cells.

(n) Ceramic plant - means a manufacturing plant producing ceramic items.

(o) Commenced - means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

(p) Commercial asbestos - means any variety of asbestos which is produced by extracting asbestos from asbestos ore.

(q) Condenser stack gases - means the gaseous effluent evolved from the stack of processes utilizing heat to extract mercury metal from mercury ore.

(r) Construction - means fabrication, erection, or installation of a stationary source.

(s) Control device asbestos waste - means any asbestos-containing waste material that is collected in a control device.

(t) Demolition - means the wrecking or taking out of any load-supporting structural member and any related removing or stripping of friable asbestos materials.

(u) Denuder - means a horizontal or vertical container which is part of a mercury chlor-alkali cell and in which water and alkali metal amalgam are converted to alkali metal hydroxide, mercury, and hydrogen gas in a short-circuited, electrolytic reaction.

(v) Director - means the chief administrative officer of the Metropolitan Board of Health or his designated representative.

(w) Effective date - means the date this regulation is adopted by the Metropolitan Board of Health.

(x) Emergency renovation - means a renovation operation that results from a sudden, unexpected event, and is not a planned renovation. Operations necessitated by non-routine failures of equipment are included.

(y) End box - means a container(s) located on one or both ends of a mercury chlor-alkali electrolyzer which serves as a connection between the electrolyzer and denuder for rich and stripped amalgam.

(z) End box ventilation system - means a ventilation system which collects mercury emissions from the end-boxes, the mercury pump sumps, and their water collection systems.

(aa) Existing source - is any equipment, machine, device, article, contrivance, or installation which was in existence on the effective date of this chapter, except that any existing equipment, machine, device, article, contrivance, or installation which is altered, replaced, or rebuilt that increases the amount of air contaminant emitted by such source or which results in the emission of any air contaminant not previously emitted shall be reclassified as a new source.

(bb) Extraction plant - means a facility chemically processing beryllium ore to beryllium metal, alloy, or oxide, or performing any of the intermediate steps in these processes.

(cc) Fabricating - means any processing of a manufactured product containing commercial asbestos, with the exception of processing at temporary sites for the construction or restoration of buildings, structures, facilities, or installations.

(dd) Foundry - means a facility engaged in the melting or casting of beryllium metal or alloy.

(ee) Friable asbestos material - means any material that contains more than one percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.

(ff) Hydrogen gas stream - means a hydrogen gas stream formed in the chlor-alkali cell denuder.

(gg) Inactive section of disposal site - means any section of a disposal site where additional asbestos waste material will not be deposited and where the surface is not disturbed by vehicular traffic.

(hh) Incinerator - means any furnace used in the process of burning waste for the primary purpose of reducing the volume of the waste by removing combustible matter.

(ii) Machine shop - means a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electrochemical machining, etching, or other similar operations.

(jj) Manufacturing - means the combining of commercial asbestos, or in the case of woven friction products the combining of textiles containing commercial asbestos, with any other material(s), including commercial asbestos, and the processing of this combination into a product as specified in Section 4-7(c).

(kk) Mercury - means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.

(ll) Mercury chlor-alkali cell - means a device which is basically composed of an electrolyzer section and a denuder (decomposer) section and utilizes mercury to produce chlorine gas, hydrogen gas, and alkali metal hydroxide.

(mm) Mercury chlor-alkali electrolyzer - means an electrolytic device which is part of a mercury chlor-alkali cell and utilizes a flowing mercury cathode to produce chlorine gas and alkali metal amalgam.

(nn) Mercury ore - means a mineral mined specifically for its mercury content.

(oo) Mercury ore processing facility - means a facility processing mercury ore to obtain mercury.

(pp) Modification - means any physical change in, or change in the method of operation of, a stationary source which increases the amount of any hazardous air pollutant emitted by such source or which results in the emission of any hazardous air pollutant not previously emitted, except that:

  (1) Routine maintenance, repair, and replacement shall not be considered physical changes, and

  (2) The following shall not be considered a change in the method of operation:

    (i) An increase in the production rate, if such increase does not exceed the operating design capacity of the stationary source;

    (ii) An increase in hours of operation.

(qq) New source - means any stationary source, the construction or modification of which is commenced after the publication in the Federal Register of proposed national emission standards for hazardous air pollutants which will be applicable to such source.

(rr) Outside air means the air outside buildings and structures.

(ss) Owner or operator - means any person who owns, leases, operates, controls, or supervises a stationary source.

(tt) Particulate asbestos material - means finely divided particles of asbestos material.

(uu) Planned renovation - means a renovation operation, or a number of such operations, in which the amount of friable asbestos material that will be removed or stripped within a given period of time can be predicted. Operations that are individually non-scheduled are included, provided a number of such operations can be predicted to occur during a given period of time based on operating experience.

(vv) Propellant plant - means any facility engaged in the mixing, casting, or machining of propellant.

(ww) Removing - means taking out friable asbestos materials used to insulate or fireproof any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member from any building, structure, facility, or installation.

(xx) Renovating - means the renovating or stripping of friable asbestos material used to insulate or fireproof any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member. Operation in which load-supporting structural members are wrecked or taken out are excluded.

(yy) Roadways - means surfaces on which motor vehicles travel including, but not limited to, highways, roads, streets, parking areas, and driveways.

(zz) Sludge - means sludge produced by a treatment plant that processes municipal or industrial wastewaters.

(aaa) Sludge dryer - means a device used to reduce the moisture content of sludge by heating to temperatures above 65°C (ca 150°F) directly with combustion gases.

(bbb) Stripping - means taking off friable asbestos materials used for insulation or fireproofing from any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member.

Section 4-2 Registration and Permits

After the effective date of this regulation, the owner or operator of any new or existing source, subject to this regulation, shall meet the requirements of Section 4-1-16, "Registration and Permits," Chapter Four, Subchapter One, "Air Pollution Control Ordinance," of the Metropolitan Code.

Section 4-3 Notification of Startup

Any owner or operator of a source which has an initial startup after the effective date of this regulation shall furnish the Director written notification as follows:

(a) A notification of the anticipated date of initial startup of the source not more than 60 days nor less than 30 days prior to such date.

(b) A notification of the actual date of initial startup of the source within 15 days after such date.

Section 4-4 Reporting Requirements

The owner or operator of any existing source, or any new source to which a standard prescribed under this part is applicable which had an initial startup which preceded the effective date of a standard prescribed under this part shall, within 90 days after the effective date, provide the following information in writing to the Director:

(a) Name and address of the owner or operator

(b) The location of the source.

(c) The type of hazardous pollutants emitted by the stationary source.

(d) A brief description of the nature, size, design, and method of operation of the stationary source including the operating design capacity of such source. Identify each point of emission for each hazardous pollutant.

(e) The average weight per month of the hazardous materials being processed by the source, over the last 12 months preceding the date of the report.

(f) A description of the existing control equipment for each emission point.

K ← (1) Primary control device(s) for each hazardous pollutant

(2) Secondary control device(s) for each hazardous pollutant.

(3) Estimated control efficiency (percent) for each control device.

(g) A statement by the owner or operator of the source as to whether he can comply with the standards prescribed in this part within 90 days of the effective date.

(h) For sources subject to Section 4-7, Paragraphs (h) and (i):

(1) A brief description of each process that generates asbestos-containing waste material.

(2) The average weight of asbestos-containing waste material disposed of, measured in kg/day.

(3) The emission control methods used in all stages of waste disposal.

(4) The type of disposal site or incineration site used for ultimate disposal, the name of the site operator, and the name and location of the disposal site.

(i) For sources subject to Section 4-7, Paragraph (j):

(1) A brief description of the site.

(2) The method or methods used to comply with the standard, or alternative procedures to be used.

Section 4-5 Emission Tests and Monitoring

(a) The owner or operator of any source subject to this regulation, at the request of the Director, shall be required to meet any or all of the requirements of Section 4-1-14, "Measurement of Emissions of Air Contaminants," of Chapter Four, Subchapter One, "Air Pollution Control Ordinance," of the Metropolitan Code, except as specified in paragraph (c) of this section.

(b) Emission testing and monitoring shall be conducted and reported as outlined in the Appendix B of the Federal Register, Vol. 38, No. 66, April 6, 1973, except wastewater treatment plant sludge incineration and drying plants. All such sources for which mercury emissions exceed 1600g/day, demonstrated either by stack sampling according to paragraph 7(i) or sludge sampling according to paragraph 7(ii), shall monitor mercury emissions at intervals of at least once per year by using sampling procedures specified in paragraph 7(i) or (ii).

(c) The owner or operator of any source subject to the emission standards of Section 4-9 and 4-10 shall test emissions from his sources:

(1) Within 90 days of startup in the case of a new source which did not have an initial startup date preceding the effective date.

(2) The Director shall be notified at least 30 days prior to an emission test so that he may at his option observe the test.

(3) Samples shall be taken over such a period or periods as are necessary to accurately determine the maximum emissions which will occur in any 24-hour period. Where emissions depend upon the relative frequency of operation of different types of processes, operating hours, operating capacities,

or other factors, the calculation of maximum 24-hour-period emissions will be based on that combination of factors which is likely to occur during the subject period and which result in the maximum emissions. No changes in the operation shall be made, which would potentially increase emissions above that determined by the most recent source test, until a new emission level has been estimated by calculation and the results reported to the Director.

(4) All samples shall be analyzed and beryllium or mercury emissions shall be determined within 30 days after the source test. All determinations shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

(5) Records of emission test results and other data needed to determine total emissions shall be retained at the source and made available, for inspection by the Director, for a minimum of 2 years.

(6) Stationary sources using mercury chlor-alkali cells may test cell room emissions in accordance with paragraph (i) or demonstrate compliance by paragraph (ii) and assume ventilation emissions of 1,300 grams per day of mercury.

(i) Each owner or operator shall pass all cell room air enforced gas streams through stacks suitable for testing.

(ii) An owner or operator may carry out approved design, maintenance, and housekeeping practices. A list of approved design, maintenance, and housekeeping practices. A list of approved design, maintenance, and housekeeping practices may be obtained from the Director.

(7) Sludge incinerator plants or sludge drying plants or a combination of these plants may demonstrate compliance by testing in accordance with the procedure set forth in paragraph (k) or (ii).

(i) Method 101 in Appendix B of the Federal Register, Vol. 38, No. 66, April 6, 1973.

(ii) Method 105 of Appendix B of the Federal Register, Vol. 40, No. 199, October 14, 1975 in accordance with the following procedures:

(A) A sludge test shall be conducted within 90 days of the effective date in the case of an existing source of a new source which has an initial startup date preceding the effective date; or a sludge test shall be conducted within 90 days or a startup in the case of a new source which did not have an initial startup date preceding the effective date.

(B) The Director shall be notified at least 30 days prior to a sludge sampling test, so that he may, at his option, observe the test.

(C) Sludge shall be sampled according to paragraph (1), sludge charging rate for the plant shall be determined according to paragraph (2), and the sludge analysis shall be performed according to paragraph (3).

(1) The sludge shall be sampled after dewatering and before incineration or drying, at a location that provides a representative sample of the sludge that is normally charged to the incinerator or dryer. Eight consecutive grab samples shall be obtained at intervals of between 45 and 60 minutes and thoroughly mixed into one sample. Each of the eight grab samples shall have a volume of at least 200 ml but shall not exceed 400 ml. A total of three composite samples shall be obtained within an operating period of 24 hours. When the 24-hour operating period is not continuous, the total sampling period shall not exceed 72 hours after the first grab sample is obtained. Samples shall not be exposed to any condition that may result in mercury contamination or loss.

(2) The maximum 24-hour period sludge incineration or drying rate shall be determined by use of a flow rate measurement device that can measure the mass rate of sludge charged to the incinerator or dryer with an accuracy of +5 percent over its operating range. Other methods of measuring sludge mass charging rates, approved by the Director, may be used.

(3) The handling, preparation, and analysis of sludge samples shall be accomplished according to Method 105 of Appendix B of the Federal Register, Vol. 40, No. 199, October 14, 1975.

(D) The mercury emissions shall be determined by use of the following equation:

$$E_{Gh} = 1 \times 10^{-3} \, c \, Q$$

where E_{Hg} = mercury emissions, g/day

c = mercury concentration of sludge on a dry solids basis, µg/g (ppm)

Q = sludge charging rate, kg/day.

(E) No changes in the operation of a plant shall be made after a sludge test has been conducted which would potentially increase emissions above the level determined by the most recent sludge test, until the new emission level has been estimated by calculation and the results reported to the Director.

(F) All sludge samples shall be analyzed for mercury content within 30 days after the sludge sample is collected. Each determination shall be reported to the Director by a registered letter dispatched before the close of the next business day following such determination.

(G) Records of sludge sampling, charging rate determination and other data needed to determine mercury content of wastewater treatment plant sludges shall be retained at the source and made available, for inspection by the Director, for a minimum of two years.

Section 4-6 Circumvention

No owner of operator subject to the provisions of this part shall build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous dilutants to achieve compliance with a visible emissions standard, and the piecemeal carrying out of an operation to avoid coverage by a standard that applies only to operations larger than a specified size.

Section 4-7 Emission Standards For Asbestos

(a) Asbestos Mills: There shall be no visible emissions to the outside air from any asbestos mill except as provided in paragraph (k) of this section. Outside storage of asbestos materials is not considered a part of an asbestos mill.

(b) Roadways: The surfacing of roadways with asbestos tailings or with asbestos-containing waste is prohibited; except for temporary roadways on an area of asbestos ore deposits. The deposition of asbestos tailings on roadways covered with snow or ice is considered "surfacing."

(c) Manufacturing: There shall be no visible emissions to the outside air, except as provided in paragraph (k) of this section, from any of the following operations if they use commercial asbestos or from any building or structure in which such operations are conducted.

(1) The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

(2) The manufacture of cement products.

(3) The manufacture of fireproofing and insulating materials.

(4) The manufacture of friction products.

(5) The manufacture of paper, millboard, and felt.

(6) The manufacture of floor tile.

(7) The manufacture of paints, coatings, caulks, adhesives, sealants.

(8) The manufacture of plastics and rubber materials.

(9) The manufacture of chlorine.

(10) The manufacture of shotgun shells.

(11) The manufacture of asphalt concrete.

(d) Demolition and renovation: The requirements of this paragraph shall apply to any owner or operator who intends to demolish any institutional, commercial, or industrial building (including apartment buildings having more than four dwelling units), structure, facility, installation, or portion thereof which contains any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member that is insulated or fireproofed with friable asbestos material, except as provided in paragraph (d) (1) of this section; or who intends to renovate any institutional, commercial, or industrial building, structure, facility, installation, or portion thereof where more than 80 meters (ca 260 feet) of pipe insulated or fireproofed with friable asbestos material are stripped or removed, or more than 15 square meters (ca. 160 square feet) of friable asbestos material used to insulate or fireproof any duct, boiler, tank, reactor, turbine, furnace, or structural member are stripped or removed.

(1) The owner or operator of a demolition operation is exempted from the requirements of this paragraph provided, the amount of friable asbestos material in the building or portion thereof to be demolished is less than 80 meters (ca. 260 feet) used to insulate pipes, and less than 15 square meters (ca. 160 square feet) used to insulate or fireproof any duct, boiler, tank, reactor, turbine, furnace, or structural member, and the notification requirements of paragraph (d) (1)(ii) are met.

(ii) Written notification shall be postmarked or delivered to the Director at least 20 days prior to commencement of demolition and shall include the information required by paragraph (d) (2) of this section, with the exception of the information required by paragraphs (d) (2) (iii), (vi), (vii), (viii), and (ix), and shall state the measured or estimated amount of friable asbestos material used for insulation and fireproofing which is present. Techniques of estimation shall be explained.

(2) Written notice of intention to demolish or renovate shall be provided to the Director by the owner or operator of the demolition or renovation operation. Such notice shall be postmarked at least 10 days prior to commencement of demolition, or as early as possible prior to commencement of emergency demolition subject to paragraph (d) (6) of this section, and as early as possible prior to commencement of renovation. Such notice shall include the following information:

(i) Name of owner or operator.

(ii) Address of owner or operator.

(iii) Description of the building, structure, facility, or installation to be demolished or renovated, including the size, age, and prior use of the structure; and the approximate amount of friable asbestos material used for insulation or fireproofing.

(iv) Address or location of the building, structure, facility, or installation.

(v) Scheduled starting and completion dates of demolition or renovation.

(vi) Nature of planned demolition or renovation and method(s) to be employed.

(vii) Procedures to be employed to meet the requirements of this paragraph and paragraph (h) of this section.

(viii) The name and address or location of the waste disposal site where the friable asbestos waste will be deposited.

(ix) Name, title, and authority of the State or Local Government representative who has ordered a demolition subject to paragraph (d) (6) of this section.

(3) For purposes of determining whether a planned renovating operation constitutes a renovation within the meaning of this paragraph:

(i) the amount of friable asbestos material to be removed or stripped shall be:

(A) For planned renovating operations involving individually non-scheduled operations, the additive amount of friable asbestos material that can be predicted will be removed or stripped at a source over the maximum period of time for which a prediction can be made. The period shall be not less than 30 days and not longer than one year.

(B) For each planned renovating operation not covered by paragraph (d) (3) (i) (A), the total amount of friable asbestos material that can be predicted will be removed or stripped at a source.

(ii) For purposes of determining whether an emergency renovating operation constitutes a renovation within the meaning of this paragraph, the amount of friable asbestos material to be removed or stripped shall be the total amount of friable asbestos material that will be removed or stripped as a result of the sudden, unexpected event that necessitated the renovation.

(4) The following procedures shall be used to prevent emissions of particulate asbestos material to outside air:

(i) Friable asbestos materials, used to insulate or fireproof any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member, shall be removed from any building, structure, facility, or installation subject to this paragraph. Such removal shall occur before wrecking or dismantling of any portion of such building, structure, facility, or installation that would break up the friable asbestos materials and before wrecking or dismantling of any other portion of such building, structure, facility, or installation that would preclude access to such materials for subsequent removal. Removal of friable asbestos materials used for insulation or fireproofing of any pipe, duct, or structural member which are encased in concrete or other similar material is not required prior to demolition, but such material shall be adequately wetted whenever exposed during demolition.

(ii) Friable asbestos materials used to insulate or fireproof pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall be adequately wetted wetted during stripping, except as provided in paragraphs (d) (4) (iv), (d) (4) (vi), or (d) (4) (vii) of this section.

(iii) Pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members that are insulated or fireproofed with friable asbestos materials may be taken out of any building, structure, facility, or installation subject to this paragraph as units or in sections provided the friable asbestos materials exposed during cutting or disjointing are adequately wetted during the cutting or disjointing operation. Such units shall not be dropped or thrown to the ground but shall be carefully lowered to ground level.

(iv) The stripping of friable asbestos materials used to insulate or fireproof any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member that has been removed as a unit or in sections as provided in paragraph (d) (4) (iii) of this section shall be performed in accordance with paragraph (d) (4) (ii) of this section. Rather than comply with the wetting requirement, a local exhaust ventilation and collection system may be used to prevent emissions to the outside air. Such local exhaust ventilation systems shall be designed and operated to capture the asbestos particulate matter produced by the stripping of friable asbestos material. There shall be no visible emissions to the outside air from such local exhaust ventilation and collection systems except as provided in paragraph (k) of this section.

(v) All friable asbestos materials that have been removed or stripped shall be adequately wetted to ensure that such materials remain wet during all remaining stages of demolition or renovation and related handling operations. Such materials shall not be dropped or thrown to the ground or a lower floor. Such materials that have been removed or stripped more than 50 feet above ground level, except those materials removed as units or in sections, shall be transported to the ground via dust-tight chutes or containers.

(vi) Except as specified below, the wetting requirements of this paragraph are suspended when the temperature at the point of wetting of friable asbestos materials is below 0°C, 32°F. Whenever friable asbestos materials are not wetted due to freezing temperatures, such materials on pipes, ducts, boilers, tanks, reactors, turbines, furnaces, or structural members shall, to the maximum extent possible, be removed in units or in sections prior to wrecking. In no case shall the requirements of paragraphs (d) (4) (iv) or (d) (4) (v) be suspended due to freezing temperatures.

(vii) For renovation operations, local exhaust ventilation. and collection systems may be used, instead of wetting as specified in paragraph (d)(4)(ii), to prevent emissions of particulate asbestos material to outside air when damage to equipment resulting from the wetting would be unavoidable. Upon request and supply of adequate information, the Director will determine whether damage to equipment resulting from wetting to comply with the provisions of this paragraph would be unavoidable. Such local exhaust ventilation systems shall be designed and operated to capture the asbestos particulate matter produced by the stripping and removal of friable asbestos material. There shall be no visible emissions to the outside air from such local exhaust ventilation and collection systems, except as provided in paragraph (k) of this section.

(5) Sources subject to this paragraph are exempt from the requirements of Section 4-3.

(6) The demolition of a building, structure, facility, or installation, pursuant to an order of an authorized representative of a State or Local Government agency, issued because that building is structurally unsound and in danger of imminent collapse is exempt from all but the following requirements of paragraph (d) of this section:

(i) The report requirements specified by paragraph (d)(2) of this section;

(ii) The requirements on stripping of friable asbestos materials from previously removed units or sections as specified in paragraph (d)(4)(vi) of this section;

(iii) The wetting, as specified by paragraph (d)(4)(vi) of this section, of friable asbestos materials that have been removed or stripped;

(iv) The portion of the structure being demolished that contains friable asbestos materials shall be adequately wetted during the wrecking operation.

(e) Spraying: There shall be no visible emissions to the outside air from the spray-on application of materials containing more than 1 percent asbestos, on a dry weight basis, used to insulate or fireproof equipment and machinery, except as provided in Paragraph (k) of this section. Spray-on materials used to insulate or fireproof buildings, structures, pipes, and conduits shall contain less than 1 percent asbestos on a dry weight basis.

(1) Sources subject to this paragraph are exempt from the requirements of Section 4-3.

(2) Any owner or operator who intends to spray asbestos materials which contain more than 1 percent asbestos on a dry weight basis to insulate or fireproof equipment and machinery shall report such intention to the Director at least 20 days prior to the commencement of the spraying operation. Such report shall include the following information:

(i) Name of owner or operator.

(ii) Address of owner or operator.

(iii) Location of spraying operation.

(iv) Procedures to be followed to meet the requirements of this paragraph.

(f) Fabricating: There shall be no visible emissions to the outside air, except as provided in paragraph (k) of this section, from any building or structure in which the following operations are conducted or directly from any of the following operations if they are conducted outside of buildings or structures:

(1) The fabrication of cement building products.

(2) The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

(3) The fabrication of cement or silicate board for ventilation hoods; oven; electrical panels; laboratory furniture; bulkheads, partitions and ceilings for marine construction; and flow control devices for the molten metal industry.

(g) Insulating: Molded insulating materials which are friable and wet-applied insulating materials which are friable after drying, installed after the effective date of these regulations, shall contain no commercial asbestos. The provisions of this paragraph do not apply to insulating materials which are spray applied; such materials are regulated under paragraph (e) of this section.

(h) Waste disposal for manufacturing, fabricating, demolition, renovation, and spraying operations: The owner or operator of any source covered under provisions of paragraphs (c), (d), (e), and (f) of this section shall meet the following standard:

(1) There shall be no visible emissions to the outside air, except as provided in paragraph (h)(3) of this section, from the collection, processing, including incineration, packaging, transporting, or deposition of asbestos-containing waste which is generated by such source.

(2) All asbestos-containing waste material shall be deposited at waste disposal sites which are operated in accordance with the provisions of paragraph (j).

(3) Rather than meet the requirement of paragraph (h) (1) of this section, an owner or operator may elect to use either of the disposal methods specified under (i) and (ii), or an alternative disposal method approved by the Director:

(i) Wetting of asbestos-containing waste with water:

(A) Control device asbestos waste shall be thoroughly mixed with water into a slurry and other asbestos containing waste material shall be adequately wetted. There shall be no visible emissions to the outside air from the collection, mixing and wetting operations, except as provided in paragraph (k) of this section.

(B) After wetting, all asbestos-containing waste material shall be sealed into leak-tight containers while wet, and such containers shall be deposited at waste disposal sites which are operated in accordance with the provisions of paragraph (j).

(C) The containers specified in paragraph (h)(3)(i)(B) of this section shall be labeled with a warning label that states:

CAUTION
CONTAINS ASBESTOS
AVOID OPENING OR BREAKING CONTAINER
BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH

Alternatively, warning labels specified by Occupational Safety and Health Standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) under 29 CFR 1910.93a(g)(2)(ii) may be used.

(ii) Processing of asbestos-containing waste material into non-friable forms:

(A) All asbestos-containing waste material shall be formed into non-friable pellets or other shapes and deposited at waste disposal sites which are operated in accordance with the provisions of paragraph (j).

(B) There shall be no visible emissions to the outside air from the collection and processing of asbestos-containing waste material, except as specified in paragraph (k) of this section.

(4) For the purposes of this paragraph, the term all asbestos-containing waste material as applied to demolition and renovation operations covered by paragraphs (d) of this section includes only friable asbestos waste and control device asbestos waste.

(i) Waste disposal for asbestos mills: The owner or operator of any source covered under the provisions of paragraph (a) of this section shall meet the following standard:

(1) There shall be no visible emissions to the outside air, except as provided in paragraph (3) of this section, during the collection, processing, packaging, transporting, or deposition of asbestos waste which is generated by such source.

(2) All asbestos-containing waste material shall be deposited at waste disposal sites which are operated in accordance with the provisions of paragraph (j).

(3) Rather than meet the requirement of paragraph (1) of this section, an owner or operator may elect to use the following methods, or an alternative disposal method approved by the Director.

(i) Control device asbestos waste shall be transferred to the tailings conveyor in a manner that results in the discharge of no visible emissions to the outside air, except as provided in paragraph (k) of this section. Such waste shall be subsequently processed as specified in paragraph (2)(ii) of this section. Alternatively, such waste may be disposed of as specified in paragraph (h)(3) of this section.

(ii) All asbestos-containing waste material shall be adequately mixed, with a wetting agent recommended by the manufacturer of the agent to effectively wet dust and tailings, prior to deposition at a waste disposal site. Such agent shall be used as recommended for the particular dust by the manufacturer of the agent. There shall be no discharge of visible emissions to the outside air from the wetting operation except as specified in paragraph (k) of this section. Wetting may be suspended when the ambient temperature at the waste disposal site is less than -9.5°C (ca. 15°F). The ambient air temperature shall be determined by an appropriate measurement method with an accuracy of +1°C(+2°F) and recorded at least at hourly intervals during the period that the operation of the wetting system is suspended. Records of such temperature measurements shall be retained at the source for a minimum of two years and made available for inspection by the Director.

(j) Waste disposal sites: The owner of any waste disposal site, which was operated by sources covered under paragraph (a), (c), (d) or (f) and where asbestos-containing waste material produced by such sources was deposited, shall meet the following standards:

(1) There shall be no visible emissions to the outside air from any active or inactive section of a waste disposal site where asbestos-containing waste has been deposited, except as provided in paragraph (4) and (5) of this section.

(2) Warning signs shall be displayed at all entrances and along this property line at intervals of 100 m (ca. 330 ft.) or less of all active or inactive asbestos waste disposal sites. Signs shall be posted in such a manner and location that a person may easily read the legend. The warning signs required by this paragraph shall conform to the requirements of 20" x 14" upright format signs specified in 29 CFR 1910.145(d)(4)(37 FR 22239) and this paragraph. The signs shall display the following legend in the lower panel, with letter sizes and styles of a visibility at least equal to those specified in this paragraph.

Legend	Notation
ASBESTOS WASTE DISPOSAL SITE	1" Sans Serif, Gothic or Block
Do Not Create Dust	3/4" Sans Serif, Gothic or Block
Breathing Asbestos is Hazardous to Your Health	14 Point Gothic

Spacing between lines shall be at least equal to the height of the upper of the two lines.

(3) The perimeter of the site shall be fenced in a manner adequate to deter access by the general public.

(4) Rather than meet the requirement of this section, an owner may elect to meet the requirements of this paragraph or may use an alternative control method for emissions from inactive waste disposal sites which has received prior approval by the Director.

(i) The asbestos-containing waste material shall be covered with at least 15 centimeters (ca. 6 inches) of compacted non-asbestos-containing material, and a cover of vegetation shall be grown and maintained on the area adequate to prevent exposure of the asbestos-containing waste material; or

(ii) The asbestos-containing waste material shall be covered with at least 60 centimeters (ca. 2 feet) of compacted non-asbestos-containing material and maintained to prevent exposure of the asbestos-containing waste; or

(iii) For inactive waste disposal sites for asbestos tailings, a resinous or petroleum-based dust suppression agent which effectively binds dust and controls wind erosion shall be applied. Such agent shall be used as recommended for the particular asbestos tailings by the dust suppression agent manufacturer. Other equally effective dust suppression agents may be used upon prior approval by the Director. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

(5) Rather than meet the requirement of paragraph (1) of this section, an owner or operator may elect to meet the requirements of paragraph (i) or (ii) of this section, or may use an alternative control method for emissions from active waste disposal sites which has received prior approval by the Director.

(i) At the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period shall be covered with at least 15 centimeters (ca. 6 inches) of compacted non-asbestos-containing material.

(ii) At the end of each operating day, or at least once every 24-hour period while the disposal site is in continuous operation, the asbestos-containing waste material which was deposited at the site during the operating day or previous 24-hour period shall be covered with a resinous or petroleum-based dust suppression agent which effectively binds dust and controls wind erosion. Such agent shall be used as recommended for the particular dust by the dust suppression agent manufacturer. Other equally effective dust suppression agents may be used upon prior approval by the Director. For purposes of this paragraph, waste crankcase oil is not considered a dust suppression agent.

(k) Rather than meet the no-visible emission requirements as specified by paragraphs (a), (c), (e), (f), (h), and (i) of this section, an owner or operator may elect to use the methods specified by Section 4-7 to clean emissions containing particulate asbestos material before such emissions escape to, or are vented to, the outside air.

Where the presence of uncombined water is the sole reason for failure to meet the no-visible emission requirement of paragraphs (a), (c), (e), (f), (h), (i), (j), or (k) of this section, such failure shall not be a violation of such emission requirements.

Section 4-8 Air Cleaning

If air-cleaning is elected, as permitted by Section 4-6, paragraphs (k) and (d)(3), the requirements of this section must be met.

(a) Fabric filter collection devices must be used, except as noted in paragraphs (b) and (c) of this section. Such devices must be operated at a pressure drop of no more than 4 inches water gage, as measured across the filter fabric. The air-flow permeability, as determined by ASTM method D737-69, must not exceed 30 ft.^{3}/min/ft^2 for woven fabrics, or 35 ft^3/min/ft^2 for felted fabrics, except that 40 ft^3/min/ft^2 for woven and 45 ft^3/min/ft^2 for felted fabrics is allowed for filtering air from asbestos ore dryers. Each square yard of felted fabric must weigh at least 14 ounces and be at least one-sixteenth inch thick throughout. Synthetic fabrics must not contain fill yarn other than that which is spun.

(b) If the use of fabric filters creates a fire or explosion hazard, the Director may authorize the use of wet collectors designed to operate with a unit contacting energy of at least 40 inches water gage pressure.

(c) The Director may authorize the use of filtering equipment other than that described in paragraphs (a) and (b) of this section if the owner or operator demonstrates to the satisfaction of the Director that the filtering of particulate asbestos material is equivalent to that of the described equipment.

(d) All air-cleaning equipment authorized by this section must be properly installed, used, operated, and maintained. Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

Section 4-9 Emission Standards for Beryllium

(a) Emissions to the atmosphere from the following stationary sources shall not exceed 10 grams of beryllium over a 24-hour period:

(1) Extraction plants, ceramic plants, foundries, incinerators, and propellant plants which process beryllium alloys, beryllium ore, beryllium, beryllium oxide, or beryllium-containing waste.

(2) Machine shops which process beryllium, beryllium oxides, or an alloy when such alloy contains more than 5 percent beryllium by weight.

(b) The burning of beryllium and/or beryllium containing waste, except propellants, is prohibited except in incinerators, emissions from which must comply with the above standards.

Section 4-10 Emission Standards For Mercury

The provisions of this section apply to those stationary sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate dry wastewater treatment plant sludge.

(a) Emissions to the atmosphere from mercury ore processing facilities and mercury cell chlor-alkali plants shall not exceed 2,300 grams of mercury per 24-hour period.

(b) Emissions to the atmosphere from sludge incineration plants, sludge drying plants, or a combination of these that process wastewater treatment plant sludges shall not exceed 3,200 grams of mercury per 24-hour period.

Regulation No. 5

Standard of Performance For New Stationary Sources

Section 1

No person shall construct or operate any stationary source in such a manner as to fail to comply with any applicable standard of performance or any other requirement established by the Environmental Protection Agency, pursuant to Section 111 of the Federal Clean Air Act.

Regulation No. 6

Emission Monitoring of Stationary Sources

This regulation sets forth the minimum requirements for continuous emission monitoring, recording, and reporting for stationary sources in Metropolitan Nashville and Davidson County. This regulation is promulgated as provided for in Section 4-1-19, "Powers and Duties of the Board," Chapter Four, Subchapter One, of the Metropolitan Code of Law.

The Director may require the owner or operator of any air contaminant source discharging air contaminants to install and maintain such monitoring equipment as the Director shall prescribe; establish and maintain such records; and make periodic emission reports.

Section 6-1 Definitions

As used in this regulation, all terms not defined herein shall have the meaning given them in Chapter Four, Subchapter One, "Air Pollution Control Ordinance," Section 4-1-1, "Definitions," of the Metropolitan Code of Law.

(a) Capacity factor - means the ratio of the average load on a machine or equipment for the period of time considered to the capacity rating of the machine or equipment.

(b) Emission standard - means a regulation (for portion thereof) setting forth an allowable rate of emissions, level of opacity, or prescribing equipment or fuel specifications that result in control of air pollution emissions.

(c) Excess emissions - means emission of an air pollutant in excess of an emission standard.

(d) Fossil fuel-fired steam generator - means a furnace or boiler used in the process of burning fossil fuel for the primary purpose of producing steam by heat transfer.

(e) Incinerator - means any furnace used in the process of burning solid waste for the purpose of reducing the volume of the waste by removing combustible material.

Section 6-2 Monitoring of Emissions

The source categories listed below are required to complete the installation and performance testing of the representative equipment and begin maintenance recording on or before April 1, 1978.

(a) Each fossil fuel-fired steam generator or each steam generating facility where the effluent from more than one fossil fuel-fired steam generator is combined and released to the atmosphere through a common stack, except as provided in the following items, with an annual average capacity factor greater than 30%, as reported to the Federal Power Commission for the calendar year 1974, or as otherwise demonstrated to the Director by the owner or operator, shall conform with the following monitoring requirements:

(1) A continuous monitoring system for measuring opacity shall be installed, calibrated, maintained, and operated by the owner or operator of any steam-generated facility with a total plant heat input rated capacity of 250 million BTU's per hour or greater, except where:

(A) Gaseous fuel is the only fuel burned, or

(B) Oil or a mixture of gas and oil are the only fuels burned and the source is able to comply with the applicable particulate matter and opacity standards without utilization of particulate matter collection equipment, and where the source has never been found through any administrative or judicial proceedings to be in violation of any visible emission standard.

(2) A continuous monitoring system for the measurement of sulfur dioxide shall be installed, calibrated, maintained, and operated, on any fossil fuel-fired steam generated which has installed sulfur dioxide pollution control equipment or where the burning of a combination of gas, oil, or solid fuel is used to meet the applicable sulfur dioxide emission standards.

(3) A continuous monitoring system for the measurement of the percent oxygen or carbon dioxide shall be installed, calibrated, maintained, and operated when fossil fuel-fired steam generators where measurement of oxygen or carbon dioxide in the flue gas are required to convert sulfur dioxide continuous emission monitoring data to units of the emission standard.

(b) Each incinerator of more than 50 tons per day charging rate shall install, calibrate, maintain, and operate a continuous monitoring system for the measurement capacity.

Section 6-3 Equipment Specifications

All monitoring equipment specified under Section 6-2 shall meet the performance specifications set forth in 40 CFR, Part 60, Appendix B, 40 Fed. Reg. 46250 (October 6, 1975). The monitoring equipment shall also be installed, calibrated, maintained, and operated in accordance with the procedures outlined in 40 CFR, Part 51, Appendix P, 40 Fed. Reg. 46240 (October 6, 1975).

Section 6-4 Monitoring System Malfunction

Due allowance for failure to monitor shall be made during any period of monitoring system malfunction, provided that the source owner or operator demonstrate to the satisfaction of the Director that the malfunction was unavoidable and is being repaired as expeditiously as practical, and that a log of all such malfunctions is being maintained by the owner or operator, including time malfunction began, when it was detected, reason for malfunction, what was done to correct the malfunction, and when malfunction was corrected.

Section 6-5 Recording and Reporting

Owners or operators of sources subject to Section 6-2 are required to submit a written report of excess emissions for each calendar quarter and the nature and cause of the excess emissions. The averaging period used for data reporting shall correspond to the averaging period specified in the emission test method used to determine compliance with the applicable emission standard. This report must include as a minimum:

(a) For opacity measurements, the summary shall consist of the magnitude and actual percent opacity of all one-minute averages of opacity greater than 20 percent. Average values may be obtained by integrating over the averaging period or by arithmatically averaging the minimum of four equally spaced instantaneous opacity measurements per minute.

(b) For gaseous measurements, the summary shall consist of emission averages, in the units of the applicable standard, per each averaging period during which the applicable standard was exceeded. For sources burning a combination of gases or solid fuel to meet the applicable sulfur dioxide emission standards, emission records along with a record of fuel consumption and fuel analysis shall be submitted monthly. The fuel analysis shall be conducted in accordance with the provisions of Chapter Four, Subchapter One,"Air Pollution Control Ordinance," Section 4-1-15, "Testing," of the Metropolitan Code of Law.

(c) The date and time of identifying each period during which the continuous monitoring system was inoperative, except for zero span checks, and the nature of system repairs or adjustments shall be reported. The Director may require proof of continuous monitoring system performance whenever systems, repairs, or adjustments have been made.

(d) When no excessive emissions have occurred and a continuous monitoring system has not been inoperative, repaired, or adjusted, such information shall be included in the report.

(e) The owner or operator of affected facilities shall maintain a file of all information reported in the quarterly summaries, and all other data collected either by the continuous monitoring system or as necessary to convert monitoring data to the units of the applicable standard for a minimum of two years from the date of collection of such data or submission of such summaries.

Section 6-6 Data Reduction

Owners or operators of facilities subject to Section 6-2 are required to use procedures outlined in 40 CFR, Part 51, Appendix P, 40 Fed. Reg. 46240, (October 6, 1975), for converting monitoring data to units of the standard where necessary.

Regulations for Control of Volatile Organic Compounds

This regulation establishes emission standards for stationary sources of volatile organic compounds located in Metropolitan Nashville and Davidson County, Tennessee. This regulation is promulgated as provided for in Section 4-1-19, "Powers and Duties of the Board," Chapter Four, Subchapter One, of the Metropolitan Code of Law.

SECTION 7-1: Definitions

As used in this regulation, all terms not defined herein shall have the meaning given them in Chapter Four, Subchapter One, "Air Pollution Control Ordinance," Section 4-1-1, "Definitions," of the Metropolitan Code of Law.

(a) "Approved" - means approved by the designated air pollution control official.

(b) "Capture system" – means the equipment (including hoods, ducts, fans, etc.) used to contain, capture, or transport a pollutant to a control device.

(c) "Coating" - is a finishing, protecting, or enclosing layer.

(d) "Coating applicator" - means an apparatus used to apply a surface coating.

(e) "Coating line" - means one or more apparatus or operations which include a coating applicator, flash-off area, and oven wherein a surface coating is applied, dried, and/or cured.

(f) "Commenced" - means that an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractural obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

(g) "Construction" - means commencement of on-site fabrication, erection, or installation of an emission source, air pollution control equipment, or a facility.

(h) "Control device" - means equipment (incinerator, adsorber, or the like) used to destroy or remove air pollutant(s) prior to discharge to the ambient air.

(i) "Continuous vapor control system" - means a vapor control system that treats vapors displaced from tanks during filling on a demand basis without intermediate accumulation.

(j) "Day" - means a 24-hour period beginning at midnight.

(k) "Director" - means the chief administrative officer of the Metropolitan Board of Health or his designated representative.

(l) "Emission" - means the release or discharge, whether directly or indirectly, of any air pollutant into the ambient air from any source.

(m) "Existing process" - is any process in existence or having a state or local agency's construction permit prior to the effective date of this Chapter.

(n) "Facility" - means any building, structure, installation, activity, or combination thereof which contains one or more stationary sources of air contaminants.

(o) "Flashoff area" - means the space between the application area and the oven.

(p) "Incinerator" - means a combustion apparatus designed for high temperature operation in which solid, semisolid, liquid, or gaseous combustible wastes are ignited and burned efficiently and from which the solid and gaseous residues contain little or no combustible material.

(q) "Intermittent vapor control system" - means a vapor control system that employs an intermediate vapor holder to accumulate vapors displaced from tanks during filling. The control device treats the accumulated vapors only during automatically controlled cycles.

(r) "Loading rack" - means an aggregation or combination of gasoline loading equipment arranged so that all loading outlets in the combination can be connected to a tank truck or trailer parked in a specified loading space.

(s) "New source" - is all other processes not defined in definition (m) as an existing process.

(t) "Organic material" - means a chemical compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate.

(u) "Oven" - means a chamber within which heat is used to bake, cure, polymerize, and/or dry a surface coating.

(v) "Owner or operator" - means any person who owns, leases, controls, operates or supervises a facility, emission source, or air pollution control equipment.

(w) "Person" -means any individual, natural person, trustee, court appointed representative, syndicate, association, partnership, firm, club, company, corporation, business trust, institution, agency, government corporation, municipal corporation, city, county, municipality district or other political subdivision, department, bureau, agency or instrumentality of Federal, State, or local government, or other entity recognized by law as the subject of rights and duties. The masculine, feminine, singular, or plural is included in any circumstances.

(x) "Petroleum liquid" - means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.

(y) "Potential to emit" - is the capability at maximum capacity to emit a pollutant in the absence of air pollution control equipment. Air pollution control equipment includes control equipment which is not, aside from air pollution control laws and regulations, vital to production of the normal product of the source or its normal operation.

(z) "Prime coat" - means the first film of coating applied in a multi-coat operation.

(aa) "Reasonable available control technology (RACT)" - means the lowest emission limit that a particular source is capable of meeting by the appli-

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cation of control technology that is reasonably available considering technological and economic feasibility.

(bb) "Reid vapor pressure" - means the absolute vapor pressure of volatile crude oil and volatile nonviscous petroleum liquids except liquified petroleum gases as determined by American Society for Testing and Materials, Part 17, 1973, D-323-72 (Reapproved 1977).

(cc) "Shutdown" - means the cessation of operation of any air pollution control equipment or process equipment for any purpose, except routine phasing out of process equipment.

(dd) "Solvent" - means organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents.

(ee) "Standard conditions" - means a temperature of 20° C (68°F) and pressure of 760 millimeters of mercury (29.92 inches of mercury).

(ff) "Startup" - means the setting into operation of any air pollution control equipment or process equipment for any purpose, except routine phasing in of process equipment.

(gg) "Stationary source" - means any article, machines, process equipment, or other contrivance from which air pollutants emanate or are emitted, either directly or indirectly, from a fixed location.

(hh) "Topcoat" - means the final film of coating applied in a multiple coat operation.

(ii) "True vapor pressure" - means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," 1962.

(jj) "Vapor collection system" - means a vapor transport system which uses direct displacement by the liquid loaded to force vapors from the tank into a vapor control system.

(kk) "Vapor control system" - means a system approved by the Director that prevents release to the atmosphere of organic compounds in the vapors displaced from a tank during the transfer of gasoline.

(ll) "Volatile organic compound" - (also denoted as VOC) means any compound of carbon that has a vapor pressure greater than 76.0 millimeters of mercury (1.5 psia) at standard conditions excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. The following compounds will not be considered volatile organic compounds: methane, ethane, 111-trichloroethane (methyl chloroform) and trichlorotrifluoroethane (Freon 113).

SECTION 7-2: Prohibited Act

(a) No owner or operator of a stationary source of volatile organic compounds may operate, cause, allow, or permit the operation of the source, unless the operation and emissions of the sources are in conformance with the applicable emission standards of this regulation. No stationary source subject to this regulation shall dispose of any waste volatile compounds in such a manner that they will evaporate into the atmosphere.

(b) In accordance with Section 7-16 all existing facilities with actual volatile organic compound emissions of 1000 tons/year or greater shall utilize reasonable available control technology (RACT). To encourage the use of the most cost effective control strategies for sources covered by this paragraph, an alternative emission reduction plan may be utilized which allows compliance to be demonstrated by equivalent emission reductions from a combination of stationary sources at a given facility. In order for an alternative plan to be utilized, each stationary source must have a specific emission The alternative plan must be approved by the Director.

SECTION 7-3: Petition For Alternative Controls

If the owner or operator of any stationary source of volatile organic compounds can demonstrate that compliance with the provisions of this regulation would be technologically infeasible, he may petition the Director to allow the use of alternative operational and/or equipment controls, which will result in the same or greater net reduction in VOC emissions as provided by this regulation. This alternative operational and/or equipment controls shall be a condition on any permit issued for said stationary source. Such a permit or order may contain an alternate test method and/or averaging time.

SECTION 7-4: Circumvention

(a) No owner or operator subject to this Chapter may build, erect, install, or use any article, machine, equipment, process, or method, the use of which conceals an emission which would otherwise constitute a violation of an applicable Regulation.

(b) Paragraph (a) of this section includes, but is not limited to, the use of gaseous dilutants to achieve compliance and the piecemeal carrying out of an operation to avoid coverage by this Chapter that applies only to operations larger than a specified size.

SECTION 7-5: Emission Standards for Coil Coating

(a) For the purpose of this section, the following definitions apply:

(1) "Coil Coating" - means the coating of any flat metal sheet or strip that comes in rolls or coils.

(2) "Quench Area" - means a chamber where the hot metal exiting the oven is cooled by either a spray of water or a blast of air followed by water cooling.

(b) This section will apply, in accordance with Section 7-16, to the coating applicator (s), oven (s) and quench area (s) of coil coating lines involved in prime and top coat or single coat operations.

(c) This section will apply to stationary sources having the potential to emit 25 tons per year or greater of volatile organic compound emissions.

(d) No owner or operator of a coil coating line subject to this section may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.31 kilograms per liter of coating (2.6 pounds per gallon), excluding water, delivered to the coating applicator from prime and topcoat or single coat operations.

SECTION 7-6: Emission Standards for Paper Coating

(a) For the purpose of this section, the following definitions apply:

(1) "Knife Coating" - means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.

(2) "Paper Coating" - means coatings put on paper and pressure sensitive tapes regardless of substrate. Related web coating processes on plastic film and decorative coatings on metal foil are included in this definition.

(3) "Roll Coating" - means the application of a coating material to a substrate by means of hard rubber or steel rolls.

(4) "Rotogravure Coating" - means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is picked up in these recessed areas and is transferred to the substrate.

(b) This section will apply, in accordance with Section 7-16, to roll, knife or rotogravure coater (s) and drying oven (s) of paper coating lines.

(c) This section shall apply to stationary sources having the potential to emit 25 tons per year or greater of volatile organic compound emissions.

(d) No owner or operator of a paper coating line subject to this section may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water, delivered to the coating applicator from a paper coating line.

SECTION 7-7: Emission Standards for Fabric and Vinyl Coating

(a) For the purpose of this section, the following definitions apply:

(1) "Fabric Coating" - means the coating of a textile substrate with a knife roll or rotogravure coater to impart properties that are not initially present, such as strength, stability, water or acid repellancy, or appearance.

(2) "Knife Coating" - means the application of a coating material to a substrate by means of drawing the substrate beneath a knife that spreads the coating evenly over the full width of the substrate.

(3) "Roll Coating" - means the application of a coating material to a substrate by means of hard rubber or steel rolls.

(4) "Rotogravure Coating" - means the application of a coating material to a substrate by means of a roll coating technique in which the pattern to be applied is etched on the coating roll. The coating material is picked up in these recessed areas and is transferred to the substrate.

(5) "Vinyl Coating" - means applying a decorative or protective topcoat, or printing on vinyl coated fabric or vinyl sheets.

(b) This section will apply, in accordance with Section 7-16, to roll, knife, or rotogravure coater (s) and drying oven (s) of fabric and vinyl coating lines.

(c) This section shall apply to stationary sources having the potential to emit 25 tons per year or greater volatile organic compound emissions.

(d) No owner or operator of a fabric coating line or a vinyl coating line subject to this section may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of:

(1) 0.35 kilograms per liter of coating (2.9 pounds per gallon), excluding water, delivered to the coating applicator from a fabric coating line.

(2) 0.45 kilograms per liter of coating (3.8 pounds per gallon), excluding water, delivered to the coating applicator from a vinyl coating line.

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SECTION 7-8: Emission Standards for Metal Furniture Coating

(a) For the purpose of this section, the following definitions apply:

(1) "Application Area" - means the area where the coating is applied by spraying, dipping, or flowcoating techniques.

(2) "Metal Furniture Coating" - means the surface coating of any furniture made of metal or any metal part which will be assembled with other metal, wood, fabric, plastic or glass parts to form a furniture piece.

(b) This section will apply, in accordance with Section 7-16, to the application area (s), flashoff area (s), and oven (s) of metal furniture coating lines involved in prime and topcoat or single coating operations.

(c) This section shall apply to stationary sources having the potential to emit 25 tons per year or greater volatile organic compound emissions.

(d) No owner or operator of a metal furniture coating line subject to this section may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.36 kilograms per liter of coating 3.0 pounds per gallon, excluding water, delivered to the coating applicator from prime, and topcoat or single coat operations.

(e) This section shall not apply to the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 3.8 liters (1 gallon) in any one 8-hour period.

SECTION 7-9: Emission Standards for Surface Coating of Large Appliances

(a) For the purpose of this section, the following definitions apply:

(1) "Application Area" - means the area where the coating is applied by spraying, dipping or flowcoating techniques.

(2) "Single Coat" - means a single film of coating applied directly to the metal substrate omitting the primer application.

(3) "Large Appliances" - means doors, cases, lids, panels and interior support parts of residential and commercial washers, dryers, ranges, refrigerators, freezers, water heaters, dishwashers, trash compactors, air conditioners and other similiar products.

(b) This section will apply, in accordance with Section 7-16, to application area (s), flashoff area (s), and oven (s) of large appliance coating lines involved in prime, single or topcoat coating operations.

(c) This section will not apply to:

(1) the use of quick-drying lacquers for repair of scratches and nicks that occur during assembly, provided that the volume of coating does not exceed 3.8 liters (1 gallon) in any one 8-hour period; or

(2) stationary sources having the potential to emit less than 25 tons per year of volatile organic compound emissions.

(d) No owner or operator of a large appliance coating line subject to this section may cause, allow or permit the discharge into the atmosphere of any volatile organic compounds in excess of 0.34 kilograms per liter of coating (2.8 pounds per gallon), excluding water, delivered to the coating applicator from prime, single or topcoat coating operations.

SECTION 7-10: Petroleum Liquid Storage

(a) For the purpose of this section, the following definitions apply:

(1) "Condensate" - means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature and/or pressure and remains liquid at standard conditions.

(2) "Crude Oil" - means a naturally occuring mixture which consists of hydrocarbons and/or sulfur, nitrogen and/or oxygen derivatives of hydrocarbons and which is a liquid at standard conditions.

(3) "Custody Transfer" - means the transfer of produced crude oil and/or condensate, after processing and/or treating in the producing from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation.

(4) "External Floating Roof" - means a storage vessel cover in an open top tank consisting of a double deck or pontoon single deck which rests upon and is supported by the petroleum liquid being contained and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(5) "Internal Floating Roof" - means a cover or roof in a fixed roof tank

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which tests upon or is floated upon the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank shell.

(6) "Petroleum Liquids" - means crude oil, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery.

(7) "Petroleum Refinery" - means any facility engaged in producing gasoline, kerosene, distillate fuel oils, residual fuel oils, lubricants, or other products through distillation of crude oils, or through redistillation, cracking, extraction, or reforming of unfinished petroleum derivatives.

(8) "True Vapor Pressure" means the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute Bulletin 2517, "Evaporation Loss From Floating Roof Tanks," 1962.

(b) This section will apply, in accordance with Section 7-16, to all fixed roof storage vessels with capacities greater than 151,400 liters (40,000 gallons) containing volatile petroleum liquids whose true vapor pressure is greater than 10.5 kilo Pascals (1.52 psia).

(c) This section will not apply to volatile petroleum liquid storage vessels:

(1) equipped with external floating roofs or internal floating roofs before January 1, 1979; or,

(2) having capacities less than 1,586,970 liters (420,000 gallons) used to store produced crude oil and condensate prior to lease custody transfer.

(d) Except as provided under paragraph (c) of this section, no owner or operator of an effected stationary source under paragraph (b) of this section shall permit the use of such stationary source unless:

(1) The stationary source has been retrofitted with an internal floating roof, equipped with a closure seal or seals, to close the space between the roof edge and tank wall; or,

(2) the stationary source has been retrofitted with equally effective alternative control, approved by the Director; and,

(3) the stationary source is maintained such that there are no visible

holes, tears, or other openings in the seal or any seal fabric or materials, and,

(4) all openings, except stub drains are equipped with covers, lids, or seals such that:

(i) the cover, lid, or seal is in the closed position at all times except when in actual use; and,

(ii) automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports; and,

(iii) rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting; and,

(5) routine inspections are conducted through roof hatches once per month; and,

(6) a complete inspection of cover and seal is conducted whenever the tank is emptied for nonoperational reasons and,

(7) records are maintained that shall include:

(i) reports of the results of inspections conducted under paragraphs (d)(5) and (d)(6) of this section; and,

(ii) a record of the average monthly storage temperatures and true vapor pressures of volatile petroleum liquids stored; and,

(iii) records of the throughout quantities and types of volatile petroleum liquids for each storage vessel.

SECTION 7-11: Bulk Gasoline Plants

(a) For the purpose of this section, the following definitions apply:

(1) "Bottom Filling" - means the filling of a tank truck or stationary storage tank through an opening near the tank bottom.

(2) "Bulk Gasoline Plant" - means a gasoline storage and distribution facility with an annual average daily throughput of less than 76,000 liters (20,000 gallons) which receives gasoline from bulk terminals by trailer transport, stores it in tanks, and subsequently dispenses it via account trucks to local farms, businesses, and service stations.

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(3) "Gasoline" - means any petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psia) or greater.

(4) "Splash Filling" - means the filling of a tank truck or stationary storage tank through a pipe or hose whose discharge opening is above the surface level of the liquid in the tank being filled.

(5) "Submerged Filling" - means the filling of a tank truck or stationary tank through a pipe or hose whose discharge opening is entirely submerged when the liquid level is six inches above the bottom of the container.

(6) "Vapor Balance System" - means a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.

(b) This section will apply, in accordance with Section 7-16, to the unloading, loading, and storage facilities of all bulk gasoline plants and all tank trucks or trailers delivering or receiving gasoline at bulk gasoline plants.

(c) This section will not apply to:

(1) stationary storage tanks of less than 2,000 gallons capacity

(2) bulk plants with an annual average working daily throughput of less than 4,000 gallons, provided that records of throughput are maintained and reported to the Director annually, and provided all stationary storage tanks and tank trucks or trailers are equipped with submerged fill pipes.

(d) Except as provided under paragraph (c) of this section, no owner or operator of a bulk gasoline plant (tank truck or trailer) shall load or unload gasoline unless each tank is equipped with a vapor balance system as described under paragraph (g) of this section and approved by the Director; and,

(1) each tank is equipped with a submerged fill pipe, approved by the Director; or,

(2) each tank is equipped with a fill line whose discharge opening is entirely submerged when the liquid level is eighteen inches above the bottom of the tank.

(e) Except as provided under paragraph (c) of this section, no owner or operator of a bulk gasoline plant, tank truck or trailer shall load or unload a tank truck or trailer at a bulk gasoline plant unless each tank truck or trailer is equipped with a vapor balance system as described under paragraph (g) of this section and approved by the Director: and.

(1) equipment is available at the bulk gasoline plant to provide for the submerged filling of each tank truck or trailer: or.

(2) each tank truck or trailer is equipped for bottom filling.

(f) No owner or operator of a bulk gasoline plant, tank truck or trailer shall permit the transfer of gasoline between tank truck or trailer and stationary storage tank unless:

(1) the transfer is conducted in accordance with paragraphs (d) and (e) of this section: and.

(2) the vapor balance system is in good working order and is connected and operating: and.

(3) tank truck or trailer hatches are closed at all times during loading operations: and.

(4) there are no leaks in the tank trucks' or trailers' pressure/vacuum relief valves and hatch covers, nor the truck tanks or storage tanks associated vapor and liquid lines during loading or unloading: and.

(5) the pressure relief valves on storage vessels and tank trucks or trailers are set to release at no less than 4.8 kPa (0.7 psi) or the highest possible pressure (in accordance with state or local fire codes, or the National Fire Prevention Association guidelines).

(g) Vapor balance systems required under paragraph (d) and (e) of this section shall consist of the following major components:

(1) a vapor space connection on the stationary storage tank equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of organic material: and.

(2) a connecting pipe or hose equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of organic material: and.

(3) a vapor space connection on the tank truck or trailer equipped with fittings which are vapor tight and will automatically and immediately close upon disconnection so as to prevent release of organic material.

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(h) No owner or operator of a bulk gasoline plant may permit gasoline to be spilled, discharged in sewers, stored in open containers or handled in any other manner that would result in evaporation.

SECTION 7-12: Bulk Gasoline Terminals

(a) For the purpose of this section, the following definitions apply:

(1) "Bulk Gasoline Terminal" - means a gasoline storage facility which receives gasoline from refineries primarily by pipeline, ship or barge, and delivers gasoline to bulk gasoline plants or to commercial or retail accounts primarily by tank truck; and has an average daily throughput of more than 76,000 liters (20,000 gallons) of gasoline.

(2) "Gasoline" - means a petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psi) or greater.

(b) This section will apply, in accordance with Section 7-16, to bulk gasoline terminals and the appurtenant equipment necessary to load the tank truck or trailer compartments.

(c) No person may load gasoline into any tank truck or trailer from any bulk gasoline terminal unless:

(1) the bulk gasoline terminal is equipped with a vapor control system, capable of complying with paragraph (d) of this section, properly installed, in good working order, in operation and consisting of one of the following:

(i) an absorption, condensation, or incineration system which processes and recovers vapors and gases from the equipment being controlled; or,

(ii) a vapor collection system which directs all vapors to a fuel gas system;

(2) all displaced vapors and gases are vented only to the vapor control system; and,

(3) a means is provided to prevent liquid drainage from the loading device when it is not in use or to accomplish complete drainage before the loading device is disconnected; and,

(4) all loading and vapor lines are equipped with fittings which make vapor-tight connections and which close automatically when disconnected.

(d) Sources effected under paragraph (c) (1) may not allow mass emissions of volatile organic compounds from control equipment to exceed 80 milligrams per liter (4.7 grains per gallon) of gasoline loaded.

(e) Sources effected under paragraph (b) may not:

- (1) allow gasoline to be discarded in sewers or stored in open containers or handled in any manner that would result in evaporation; nor,
- (2) allow the pressure in the vapor collection system to exceed the tank truck or trailer pressure relief settings.

SECTION 7-13: Gasoline Dispensing Facility, Stage I

(a) For the purpose of this section, the following definitions apply:

- (1) "Gasoline" - means a petroleum distillate having a Reid vapor pressure of 27.6 kPa (4 psi) or greater.
- (2) "Delivery Vessel" - means tank trucks or trailers equipped with a storage tank and used for the transport of gasoline from sources of supply to stationary storage tanks of gasoline dispensing facilities.
- (3) "Submerged Fill Pipe" - means any fill pipe with a discharge opening which is entirely submerged when the level is six inches above the bottom of the tank.
- (4) "Gasoline Dispensing Facility" - means any site where gasoline is dispensed to motor vehicle gasoline tanks from stationary storage tanks.

(b) This section will apply, in accordance with Section 7-16, to all gasoline dispensing facilities.

(c) This section will not apply to:

- (1) transfers made to storage tanks of gasoline dispensing facilities equipped with floating roofs or their equivalent which have been approved by the Director.
- (2) stationary gasoline storage containers of less than 7,570 liters (2,000 gallons), provided the containers are equipped with submerged fill pipes.

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(3) gasoline dispensing facilities with an annual throughput of less than 260,000 gallons and which is serviced with a tank truck with a capacity of 4,200 gallons or less, provided records of throughput are maintained and reported to the Director annually and, provided all gasoline storage containers are equipped with submerged fill pipes.

(d) Except as provided under paragraph (c) of this section, no owner or operator may transfer or cause or allow the transfer of gasoline from any delivery vessel into any stationary storage tank, unless the tank is equipped with a submerged fill pipe and the vapors displaced from the storage tank during filling are processed by a vapor control system in accordance with paragraph (e) of this section.

(e) The vapor control system required by paragraph (d) of this section shall include one or more of the following:

(1) a vapor-tight line from the storage tank to the delivery vessel and a system that will ensure the vapor line is connected before the gasoline can be transferred into the tank; or

(2) a refrigeration-condensation system or equivalent approved by the Director; or

(3) a system demonstrated to have control efficiency equivalent to or greater than provided under paragraph (e) (1) or (e) (2) of this section and approved by the Director.

(f) The vapor-laden delivery vessel shall be subject to the following conditions:

(1) the delivery vessel must be designed and maintained to be vapor tight at all times; and

(2) the vapor-laden delivery vessel may be refilled only at;

(i) bulk gasoline plants complying with Section 7-11; or,

(ii) bulk gasoline terminals complying with Section 7-12.

SECTION 7-14: Solvent Metal Cleaning

(a) For the purpose of this section, the following definitions apply:

(1) "Cold Cleaning" - means the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing or immersion

while maintaining the solvent below its boiling point. Wipe cleaning is not included in this definition.

(2) "Conveyorized Degreasing" - means the continuous process of cleaning and removing soils from metal surfaces by operating with either cold or vaporized solvents.

(3) "Freeboard Height" - means the distance from the top of the vapor zone to the top of the degreaser tank for vapor degreasers and from the liquid surface to the top of degreaser toner for cold cleaners.

(4) "Freeboard Ratio" - means the freeboard height divided by the width of the degreaser.

(5) "Open Top Vapor Degreasing" - means the batch process of cleaning and removing soils from metal surfaces by condensing hot solvent vapor on the colder metal parts.

(6) "Solvent Metal Cleaning" - means the process of cleaning soils from metal surfaces by cold cleaning or open top vapor degreasing or conveyorized degreasing.

(b) This section applies, in accordance with Section 7-16, to cold cleaning, open top vapor degreasing and conveyorized degreasing operations having the potential to emit 25 tons per year or greater volatile organic compound emissions, with the following exceptions:

(1) open top vapor degreasers with an open area smaller than one square meter (10.8 square feet) shall be exempt from paragraphs (d) (3) (ii) and (d) (3) (iv) of this section.

(2) conveyorized degreasers with an air/vapor interface smaller than 2.0 square meters (21.6 square feet) shall be exempt from paragraph (e) (2) of this section.

(c) Except as provided under paragraph (b) of this section, the owner or operator of a cold cleaning facility shall:

(1) equip the cleaner with a cover; and

(2) equip the cleaner with a facility for draining cleaned parts; and

(3) provide a permanent, conspicuous label, summarizing the operating requirements; and

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(4) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere: and,

(5) close the cover whenever parts are not being handled in the cleaner; and,

(6) drain the cleaned parts for at least 15 seconds or until dripping ceases: and,

(7) if used, supply a solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure which does not cause excessive splashing.

(d) Except as provided under paragraph (b) of this section, the owner or operator of an open top vapor degreaser shall:

(1) equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone; and

(2) keep the cover closed at all times except when processing work loads through the degreaser: and.

(3) minimize solvent carryout by:

(i) racking parts to allow complete drainage: and,

(ii) moving parts in and out of the degreaser at less than 3.3 meters per minute (11 feet per minute): and,

(iii) holding the parts in the vapor zone at least 30 seconds or until condensation ceases: and,

(iv) tipping out any pools of solvent on the cleaned parts before removal from the vapor zone: and,

(v) allowing parts to dry within the degreaser for at least 15 seconds or until visually dry: and,

(4) not degrease porous or absorbent materials, such as cloth, leather, wood or rope; and,

(5) not occupy more than half of the degreaser's open top area with a workload; and,

(6) not load the degreaser to the point where the vapor level would drop more than 10 centimeters (4 inches) when the workload enters the vapor zone; and,

(7) always spray below the vapor level; and,

(8) repair solvent leaks immediately, or shutdown the degreaser; and,

(9) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere; and,

(10) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator; and,

(11) not use ventilation fans near the degreaser opening, not provide exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute per square foot) of degreaser open area, unless necessary to meet OSHA requirements; and,

(12) provide a permanent, conspicuous label, summarizing the operating procedures of subparagraphs (c) (2) through (c) (10) of this rule.

(e) Except as provided under paragraph (d) of this section, the owner or operator of a conveyorized degreaser shall:

(1) not use workplace fans near the degreaser opening, nor provide exhaust ventilation exceeding 20 cubic meters per minute per square meter (65 cubic feet per minute square foot) of degreaser opening, unless necessary to meet OSHA requirements; and,

(2) equip the cleaner with equipment, such as drying tunnel or rotating (tumbling) basket, sufficient to prevent cleaned parts from carrying out solvent liquid or vapor; and,

(3) minimize openings during operation so that entrances and exits will willhouette workloads with an average clearance between the largest parts and the edge of the degreaser opening of less than 10 centimeters (4 inches) or less than 10 percent of the width of the opening; and,

(4) provide downtime covers for closing off the entrance and exit during shutdown hours; and,

(5) minimize carryout emissions by:

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    (i) racking parts for best drainage; and,

    (ii) maintaining the verticle conveyor speed at less than 3.3 meters per minute (11 feet per minute); and,

(6) store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, such that greater than 20 percent of the waste solvent (by weight) can evaporate into the atmosphere; and,

(7) repair solvent leaks immediately, or shut down the degreaser: and,

(8) not operate the cleaner so as to allow water to be visually detectable in solvent exiting the water separator: and,

(9) place downtime covers over entrances and exits of conveyorized degreasers immediately after the conveyors and exhausts are shut down and not remove them until just before start-up.

SECTION 7-15: Prohibition of Cutback Asphalt

(a) For the purpose of this section, the following definitions apply:

(1) "Asphalt" - means a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) in which the predominating constituents are bitumens which occur in nature as such or which are obtained as residue in refining petroleum.

(2) "Cutback Asphalt" - means asphalt cement which has been liquified by blending with petroleum solvents (diluents). Upon exposure to atmospheric conditions the diluents evaporate, leaving the asphalt cement to perform its function.

(3) "Penetrating Prime Coat" - means an application of low viscosity liquid asphalt to an absorbent surface. It is used to prepare an untreated base for an asphalt surface. The prime penetrates the base and plugs the voids, hardens the top, and helps bind it to the overlying asphalt course. It also reduces the necessity of maintaining an untreated base course prior to placing the asphalt pavement.

(b) No person may cause, allow, or permit the use or application of cutback asphalts for paving purposes except for:

(1) long-term stockpile storage; or,

(2) application when the ambient temperature is less than 50° F within 4 hours after the time of application: or.

(3) use as a penetrating prime coat: or.

(4) use for base stabilization.

SECTION 7-16: Compliance Schedules

(a) Process and Emission Control Equipment Installations

(1) Except as provided under paragraph (d), the owner or operator of a volatile organic compound emission source proposing to install and operate volatile organic compound emission control equipment and/or replacement process equipment to comply with the provisions of this regulation shall adhere to the increments of progress contained in the following schedule:

(i) Final plans for the emission control system and/or process equipment must be submitted before November 1, 1979.

(ii) Contracts for the emission control systems and/or process equipment must be awarded or orders must be issued for purchase of component parts to accomplish emission control before March1, 1980.

(iii) Initiation of on-site construction or installation of the emission control and/or process equipment must begin before October 1, 1980.

(iv) On-site construction or installation of the emission control and/or process equipment must be completed before October 1, 1981.

(v) Final compliance, determined in accordance with Section 7-18 shall be achieved before November 1, 1981.

(vi) Any owner or operator of a stationary emission source subject to the compliance schedule of this section shall certify to the Director within 5 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(b) Low Solvent Content Coating

(1) Except as provided under paragraph (d) or under paragraph (2) of this

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section, the owner or operator of a volatile organic compound emission source proposing to employ low solvent content coating technology to comply with the provisions of this regulation shall adhere to the increments of progress contained in the following schedule:

(i) Final plans for the application of low solvent content coating technology must be submitted before November 1, 1979

(ii) Research and development of low solvent content coating must be completed before May 1, 1980.

(iii) Evaluation of product quality and commercial acceptance must be completed before November 1, 1980.

(iv) Purchase orders must be issued for low solvent content coatings and process modifications before January 1, 1981.

(v) Initiation of process modifications must begin before March 1, 1981.

(vi) Process modifications must be completed and use of low solvent coatings must begin before August 1, 1981.

(vii) Final compliance, determined in accordance with Section 7-18 shall be achieved before September 1, 1981.

(viii) Any owner or operator of a stationary source subject to the compliance schedule of this section shall certify to the Director, within 5 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(c) Equipment Modification

(1) Except as provided under paragraph (d), the owner or operator of a volatile organic compound emission source proposing to comply with the provisions of this regulation by modification of existing process equipment shall adhere to the increments of progress contained in the following schedule:

(i) Final plans for process modification must be submitted before November 1, 1979.

(ii) Contracts for process modifications must be awarded or orders must be issued for the purchase of component parts to accomplish process modifications before March 1, 1980.

(iii) Initiation of on-site construction or installation of process modifications must begin before October 1, 1980.

(iv) On-site construction or installation of process modifications must be completed before October 1, 1981.

(v) Final compliance, determined in accordance with Section 7-18 shall be achieved before November 1, 1981.

(vi) Any owner or operator of a stationary source subject to the compliance schedule of this section shall certify to the Director within 5 days after the deadline for each increment of progress, whether the required increment of progress has been met.

(d) Exception

Paragraphs (a) through (d) will not apply to sources which are in compliance with the applicable provisions of this regulation before the effective date of this Chapter which have determined and certified compliance to the satisfaction of the Director before November 1, 1979.

SECTION 7-17: Special Provisions for New Volatile Organic Compound Sources and Modifications

(a) Definitions

(1) "Best Available Control Technology (BACT)" - is an emission rate based on the maximum degree of reduction, taking into account energy, environmental and economic impacts, and other costs. In no event shall application of BACT result in emissions of any pollutant which will exceed the emission allowed by the New Source Performance Standards.

(2) "Lowest Achievable Emission Rate (LAER)" - the rate of emission which reflects the most stringent emission limitation which is achieved in practice by such class or category of sources. In no event shall the application of this term permit a proposed, new, or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance.

(b) Regardless of the specific emission standards of this regulation, all new or modified stationary sources which have the potential to emit greater than 100 tons per year of volatile organic compounds shall utilize LAER.

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(c) Any new or modified stationary sources which have a potential to emit less than 100 tons per year of volatile organic compounds (VOC) shall utilize BACT.

SECTION 7-18: Test Methods and Procedures

(a) General Provisions

(1) The owner or operator of any volatile organic compound source required to comply with the provisions of this regulation, shall, at his own expense, demonstrate complete compliance by the methods of this section or an alternative method approved by the Director. All tests shall be made by, or under the direction of, a person qualified by training and/or experience in the field of air pollution testing.

(2) No volatile organic compound emissions compliance testing will be allowed, nor the results accepted, unless prior notification has been supplied to the Director as required under paragraphs (c) and (d) of this section and the Director has granted approval.

(3) Any person proposing to conduct a volatile organic compound emissions test for the purpose of demonstrating compliance shall notify the Director, in the manner set forth under paragraph (d) of this section, of the intent to test not less than 30 days before the proposed initiation of the tests so the Director may, at his option, observe the test.

(4) Any person notifying the Director of a proposed volatile organic compound emissions test shall include, as part of notification, the following minimum information:

(i) a statement indicating the purpose of the proposed test and the applicable section of the regulation and,

(ii) a detailed description of the facility to be tested; and,

(iii) a detailed description of the test procedures, equipment, and sampling sites; and,

(iv) a timetable, setting forth the dates on which;

(1) the testing will be conducted; and,

(2) the final test report will be submitted (not later than 30 days after completion of on-site sampling); and,

(v) proposed corrective actions should the tests show noncompliance.

(5) For compliance determination, the owner or operator of any volatile organic compound emissions source shall be responsible for providing;

(i) sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test procedure; and,

(ii) safe access to the sample and data collection locations; and,

(iii) light, electricity, and other utilities required for sample and data collection.

(b) Determination of Volatile Content of Surface Coatings

(1) This method applies to paint, varnish, lacquer, and surface coatings which are air-dried or force-dried.

(2) This method does not apply to any coating system requiring a special curing process such as:

(i) exposure to temperatures in excess of 110°C (230°F) to promote thermal cross-linking; or,

(ii) exposure to ultraviolet light to promote cross-linking.

(3) For the purposes of this method, the applicable surface coatings are divided into three classes. They are:

(i) Class I: General Solvent-Type Paints. This class includes white linseed oil outside paint, white soya and phthalic alkyd enamel, white linseed o-phthalic alkyd enamel, red lead primer, zinc chromate primer, flat white inside enamel, white epoxy enamel, white vinyl toluene modified alkyd, white amino modified baking enamel, and other solvent-type paints not included in Class II.

(ii) Class II: Varnishes and Lacquers. This class includes clear and pigmented lacquers and varnishes.

(iii) Class III: Water Thinned Paints. This class includes emulsion or latex paints and colored enamels.

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(4) For the purpose of this method, a representative sample of the surface coating shall be obtained at the point of delivery to the coater or any other point in the process that the Director approves

(5) The volatile organic content of the sample shall be determined as follows:

(i) Assign the coating to one of the three classes in paragraph (c) of this section. Assign any coating not clearly belonging to Class II or III to Class I.

(ii) Determine the density D_m (in grams/cubic centimeter) of the paint, varnish, lacquer, or related product according to the procedures outlined in ASTM D 1475-60, Standard Method of Test for Density of Paint, Varnish, Lacquer, and Related Products. Then depending on the class of the coating, use one of the following specified procedures to determine the volatile content:

Class I. Use the procedure in ASTM D2369-73, Standard Method of Test for Volatile Content of Paints.

(A) Record the following information:

W_1= Weight of dish and sample, grams

W_2= Weight of dish and sample after heating, grams

S = Sample weight, grams

(B) Compute the volatile matter content C_v(in grams/liter of paint) as follows:

$$C_v = \frac{(W_1 - W_2)(D_m)(10^3)}{S}$$

(C) To convert grams/liters to pounds/gallon, multiply C_v by 8.3455×10^{-3}.

Class II. Use the procedure in ASTM D 1644-59 Method A. Standard Methods of Test for Nonvolatile Content of Varnishes (Do not use Method B).

(A) Record the following information:
A = Weight of dish, grams

B = Weight of sample used, grams

C = Weight of dish and contents after heating, grams

(B) Compute the volatile matter content C_v (in grams/liter) as follows:

$$C_v = \frac{(A + B - C)(D_m)(10^3)}{B}$$

(C) To convert grams/liter to pounds/gallon, multiply C_v by 8.3455×10^{-3}.

Class III. Use the procedures in ASTM D 2369-73, Standard Method of Test for Volatile Content of Paints.

(A) Record the same information as specified in paragraph (c) (2) (i) of this section.

(B) Determine the water content in P (in percent water) of the paint according to the procedure outlined in Federal Standard 141a, Method 4082.1, Water in Paint and Varnishes (Karl Fischer Titration Method).

(C) Compute the nonaqueous volatile matter content C_v (in grams/liter) as follows:

$$C_v = \frac{(W_1 - W_2 - 0.01\ PS)(D_m)(10^3)}{S}$$

(D) To convert grams/liters to pounds/gallon, multiply C_v by 8.3455×10^{-3}.

(c) Determination of Volatile Organic Compound Emission Control System Efficiency

(1) The provisions of this section are generally applicable to any test method employed to determine the collection or control efficiency of any device or system designed, installed, and operated for the purpose of reducing volatile organic compound emissions.

(2) The following procedures shall be included in any efficiency determination:

(i) The volatile organic compound containing material shall be sampled and analyzed in a manner approved by the Director such that the quantity of emissions that could result from the use of the material can be quantified.

(ii) The efficiency of any capture system used to transport the volatile organic compound emissions from their point of origination to the control equipment shall be computed using accepted engineering practice and in a manner approved by the Director.

(iii) Samples of the volatile organic compound containing gas stream shall be taken simultaneously at the inlet and outlet of the emissions control device in a manner approved by the Director.

(iv) The total combustible carbon content of the samples shall be determined by a method approved by the Director.

(v) The efficiency of the control device shall be expressed as the fraction of total combustible carbon content reduction achieved.

(vi) The volatile organic compound mass emission rate shall be the sum of emissions from the control device, emissions not collected by the capture system and capture system losses.

(d) Determination of Solvent Metal Cleaning Organic Compound Emissions

(1) This method is applicable to determining volatile organic compound emissions from solvent metal cleaning equipment.

(2) The purpose of this method is to quantify, by material balance, the amount of solvent input into a degreaser over a sufficiently long period of time so that an average emission rate can be computed.

(3) The following procedure shall be followed to perform a material balance test:

(i) Clean the degreaser sump before testing

(ii) Record the amount of solvent added to the tank with a flow meter.

(iii) Record the weight and type of work load degreased each day.

(iv) At the end of the test run, pump out the used solvent and measure the amount with a flow meter. Also, estimate the volume of metal chips and other material remaining in the emptied sump, if significant.

(v) Bottle a sample of the used solvent and analyze it to find the percent that is oil and other contaminants. The oil and solvent proportions can be estimated by weighing samples of used solvent before and after boiling off the solvent. The volume of solvent displaced by this oil along with the volume of make-up solvent added during operations is equal to the solvent emission.

(e) Test Procedure for Determination of VOC Emissions From Bulk Gasoline Terminals

(1) Principle. VOC mass emissions are determined directly using flow meters and hydrocarbon analyzers. The volume of liquid gasoline dispensed is determined by a computation based on the metered quantity of gasoline at the loading rack. Test results are expressed in milligrams of hydrocarbons emitted per liter of gasoline transferred.

(2) Summary of the Method. This method describes the test conditions and test procedures to be followed in determining the emissions from systems installed to control volatile organic compound vapors resulting from tank truck and trailer loading operations at bulk terminals. Under this procedure, direct measurements are made to compute the hydrocarbon mass exhausted from the vapor control system. All possible sources of leaks are qualitatively checked to insure that no uncontrolled vapors are emitted to the atmosphere. The results are expressed in terms of mass hydrocarbons emitted per unit volume of gasoline transferred. Emissions are determined on a total hydrocarbon basis. If methane is present in the vapors returned from the tank truck or trailers, provisions are included for conversion to a total nonmethane hydrocarbon basis.

(3) Applicability. This method is applicable to determining VOC emission rates at tank truck and trailer gasoline loading terminals employing vapor collection systems and either continuous or intermittent vapor control systems. This method is applicable to motor tank truck and trailer loading only as per Section 7-13.

(4) Apparatus. The components essential to the evaluation of emissions from gasoline loading terminals are:

(i) portable combustible gas detector equipped to read 0 to 100 percent of the lower explosive limit.

(ii) flexible thermocouple with recorder.

(iii) gas volume meter, sized for the expected exhaust flow rate and range.

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(iv) total hydrocarbon analyzer with recorder (flame ionization detector or nondispersive infrared equipped to read 0 to 10 percent by volume hydrocarbon as propane for vapor control systems which recover the vapor as liquid; or 0 to 10,000 ppmv hydrocarbons as propane for incineration vapor control systems).

(v) barometer to measure atmospheric pressure,

(vi) gas chromatography/flame ionization detector with a column to separate $C_1 - C_7$ alkanes; used if methane is present in recovered vapors or if incineration is the vapor control technique.

(5) Test Requirements.

(i) No less than three 8-hour test repetitions will be performed.

(ii) During the test period, all loading racks shall be open for each product line which is controlled by the system under test. Simultaneous use of more than one loading rack shall occur to the extent that such use would normally occur.

(iii) Simultaneous use of more than one dispenser on each loading rack shall occur to the extent that such use would normally occur.

(iv) Dispensing rates shall be set at the maximum rate at which the equipment is designed to be operated. Automatic product dispensers are to be used according to normal operating practices.

(v) Applicable operating parameters of the vapor control system shall be monitored to demonstrate that the control unit is operating at design levels. For intermittent vapor control systems employing a vapor holder, each test repetition shall include at least one fully automatic operation cycle of the vapor holder and control device. Tank trucks and trailers shall be essentially leak-free as determined by the Director.

(6) Basic Measurements Required. The basic measurements essential to the evaluation of emissions from gasoline loading terminals are:

(i) the amount of gasoline dispensed from gasoline dispensers,

(ii) leak check of all fittings and vents,

(iii) the following items for the processing unit exhaust:

(1) temperature

(2) pressure

(3) volume of vapors

(4) hydrocarbon concentration of vapors

(5) gas chromatograph analysis of vapors if methane is present in recovered vapors

(7) Test Procedure

(i) Calibrate and span all instruments as outlined under paragraph (9) of this section.

(ii) Install an appropriately sized gas meter on the exhaust vent of the vapor control system. For those vapor control systems where size restrictions preclude the use of a volume meter; or when incineration is used for vapor control, a gas flow rate meter (orifice, pitot tube, annubar, etc.) is necessary. At the meter inlet, install a thermocouple with recorder. Install a tap at the volume meter outlet. Attach a sample line for a total hydrocarbon analyzer (0 to 10 percent as propane) to this tap. If the meter pressure is different than barometric pressure, install a second tap at the meter outlet and attach an appropriate manometer for pressure measurement. If methane analysis is required, install a third tap for connection to a constant volume sample/pump evacuated bag assembly as described in Method 3, Federal Register 36:247, December 23, 1977.

(iii) Measurements and data required for evaluating emissions from the system:

(a) at the beginning and end of each test repetition, record the volume readings on each product dispenser on each loading rack served by the system under test.

(b) at the beginning of each test repetition and each 2 hours thereafter, record the ambient temperature and the barometric pressure.

(c) for intermittent vapor control systems employing a vapor holder, the unit shall be manually started and allowed to process vapors in the holder until the lower automatic

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cutoff is reached. This cycle should be performed immediately prior to the beginning of the test repetition before readings required under paragraph (6) (iii) of this section are taken. No loading shall be in progress during this manual cycle.

(d) for each cycle of the vapor control system during each test repetition, record the start and stop time, the initial and final gas meter readings, the average vapor temperature, pressure and hydrocarbon concentration. If a flow rate meter is used, record flow meter readouts continuously during the cycle. If required, extract a sample continuously during each cycle for chromatographic analysis for specific hydrocarbons,

(e) for each tank truck or trailer loading during the test period, check all fittings and seals on the tanker compartments with the combustible gas detector. Record the maximum combustible gas reading for any incidents of leakage of hydrocarbon vapors. Explore the entire periphery of the potential leak source with the sample hose inlet 1 cm (0.4 inches) away from the interface,

(f) during each test period, monitor all possible sources of leaks in the vapor collection and control systems with the combustible gas indicator. Record the location and combustible gas reading for any incidents of leakage,

(g) for intermittent vapor control systems, the control unit shall be manually started and allowed to process vapors in the holder until the lower automatic shut-off is reached at the end of each test repetition. Record the data required under paragraph (6) (iii) of this section for this manual cycle. No loading shall begin progres during this manual cycle.

(8) Calculations.

(i) Terminology:

T_a = Ambient temperature (^{o}C)

P_b = Barometric pressure (mm Hg)

L_t = Total volume of liquid dispensed from all controlled racks during the test period (liters)

V_e = Volume of air-hydrocarbon mixture exhausted from the processing unit (M^3)

V_{es} = Normalized volume of air-hydrocarbon mixture exhausted, NM^3 @ 20 °C, 760 mmHg

C_e = Volume fraction of hydrocarbons in exhausted mixture (volume % as $C_3H_{10}/100$, corrected for methane content if required)

T_e = Temperature at processing unit exhaust (°C)

P_e = Pressure at processing unit exhaust (mm Hg abs)

$(M/L)_e$ = Mass of hydrocarbons exhausted from the processing unit per volume of liquid loaded, (mg/1).

(ii) Calculate the following results for each period of the vapor control system:

$V_e = V_{ef} - V_{ei}$, or

V_e = totalized volume from flow rate and time records.

(a) normalized volume of exhausted mixture:

$$V_{es} = \frac{(0.3585 \ ^{\circ}K/mmHg)\ VePe}{(T_e + 273.2)} \ NM^3 \text{ @ } 20^{\circ}C,\ 760\ mmHg$$

(b) mass of hydrocarbons exhausted from the vapor control system:

$$M_e = (1.833 \times 10^6) \frac{(mgC_3H_8)}{NM^3C_3H_8} \ (V_{es}C_e\ (mg))$$

(iii) calculate the average mass of hydrocarbons emitted per volume of gasoline loaded:

$$(M/L)_e = \frac{M_e}{L_t} \ (mg/liter)$$

(9) Calibrations.

(i) Flow meters shall be calibrated using standard methods and procedures which have been approved by the Director.

(ii) Temperature recording instruments shall be calibrated prior to a test period and following the test period using an ice bath (0°C) and a known reference temperature source of about 35° C. Daily during the test period, use an accurate reference to measure the ambient temperature and compare the ambient temperature reading of all other instruments to this value.

(iii) Manufacturer's instructions concerning warm-up and adjustments shall be followed for total hydrocarbon analyzers. Prior to and immediately following the emission test, perform a comprehensive laboratory calibration on each analyzer used. Calibration gases should be propane in nitrogen prepared gravimetrically with mass quantities of approximately 100 percent propane. A calibration curve shall be provided using a minimum of five prepared standards in the range of concentrations expected during testing:

(a) For each repetition. zero with zero gas (3 ppm C) and span with 70 percent propane for instruments used in the vapor lines and with 10 percent propane for instruments used at the vapor control system exhaust.

(b) The zero and span procedure shall be performed at least once prior to the first test measurement. once during the middle of the run. and once following the final test measurement for each run.

(c) Conditions in calibration gas cylinders must be kept such that condensation of propane does not occur. A safety factor of 2 for pressure and temperature is recommended.